

# **MORALITY IN ARCHITECTURE:**

Detail as Virtue

---

Thesis by:  
Michael Scott Parker

Thesis Supervisor:  
Dr. Thomas Mical

A thesis submitted to the Faculty of Graduate Studies and Research  
In partial fulfillment of the requirements for the degree of  
**Professional Masters of Architecture**

Azrieli School of Architecture  
Carleton University  
Ottawa, Ontario  
22 May 2008

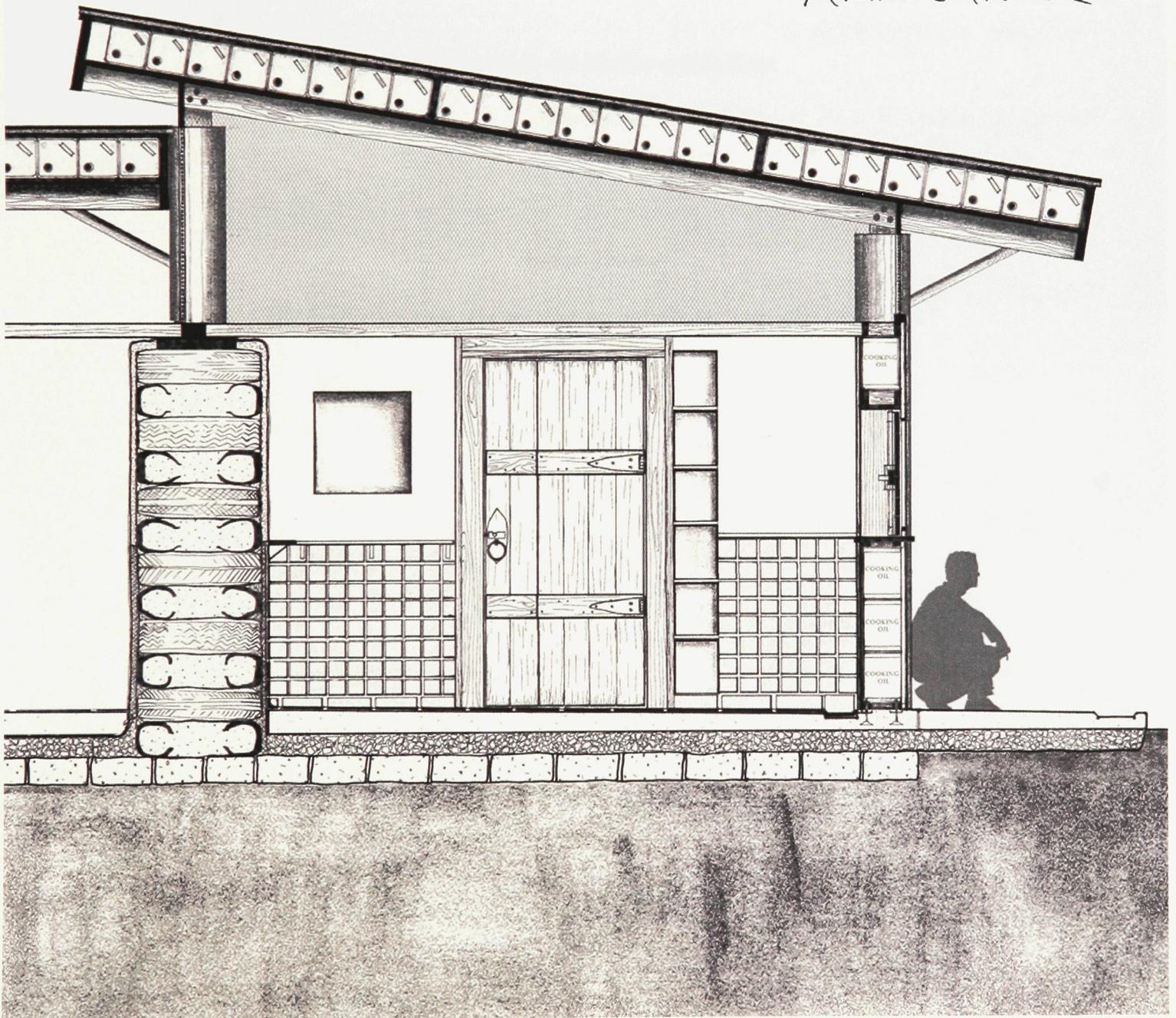
---

© Copyright 2008  
Michael S. Parker

# MORALITY IN ARCHITECTURE

## DETAIL AS VIRTUE

MICHAEL PARKER



## Table of Contents

1. Abstract

2. World Music in a Historical Sense

3. What is Architectural History?

*Dedicated to my Mother and to Katy.*

*Thank you...*

4. What is the Value of Craft?

5. Demonstration

*And to Thomas.*

6. Conclusion

*“The higher we soar, the smaller we appear to those who cannot fly.”*

*-Nietzsche*

## **Table of Contents:**

1. Abstract

2. What Is Morality In a Historical Sense?

3. What Is Architectural Morality?

4. What Is the Value of Craft?

5. Demonstration

6. Conclusion

---

## 1. Abstract:

This thesis engages the details of architecture with the works of John Ruskin and Friedrich Nietzsche. It questions the nature of morality through the works of Alexandre Kojève and Nietzsche and then seeks to locate an architectural morality through the writing of Ruskin. It investigates the nature of craft through the works of Aristotle, Hannah Arendt, and Richard Sennett before proposing craft as the basis for a new architectural morality in which the architectural detail is virtue. The essay will conclude with a presentation of a design for a crafts school in Mumbai, India as a demonstration of the revaluing of craft as a design imperative and the restoration of Aristotle's four material causes in design.

## 2. What is morality in a historical sense?

When we speak of morality today, it is generally in the Christian sense – the, “thou shalt not” sense. It is moral not to kill, not to steal, not to lie, not to cheat, etc.. But Nietzsche scholar, Robert Solomon, explains that, “to have a morality is to have *any* rank order of values. Some things are ‘good,’ some things are better than ‘good.’ Some things are ‘bad,’ some things are worse than ‘bad.’”<sup>1</sup> Every individual has his own personal rank order of values that are learned from his family, his culture, or his religion. Morality is a set of privileged virtues that guide our every thought and action without our having to think about it.

One cannot perceive morality, itself, but only the virtues that comprise that morality. Virtues are the characteristics of morality and to perceive anything is to perceive its characteristics, the sum of which equates to the whole. Where do the virtues that comprise our morality originate? Friedrich Nietzsche (1844-1900) traced our Christian morality back to its birth among ancient slaves to search for the fundamental drive underlying its development. Much of his thought regarding the origin and progression of the Christian morality stemmed from Georg W.F. Hegel’s philosophy, specifically of the relationship between the master and the slave. To examine Hegel’s philosophy of the master and slave, we can look to the writings of his interpreter, Alexandre Kojève (1902-1968), who explains how morality was born in desire.

For Kojève the fundamental characteristic of man that separates him from animals is his desire for recognition by another. “[Human] Desire is different from animal Desire (which produces a natural being, merely living and having only a sentiment of its life) in that it is directed, not toward a real, ‘positive’ given object, but toward another Desire.”<sup>2</sup> Animals desire because they are incomplete and desire and seek objects in their environment to satisfy this ‘lack.’ But only man can desire to become the object of another’s Desire, or in other words, to desire Desire, itself. “Man’s humanity ‘comes to light’ only in risking his life to satisfy his human Desire – that is, his Desire directed toward another Desire.”<sup>3</sup> Man’s Desire to be the object of others’ Desires is simply the Desire to be recognized by another human. For Kojève, this recognition can only occur as a result of action. He describes a fight between two men who want to be recognized so much that they suppress

---

<sup>1</sup> Robert Solomon, “On the Genealogy of Morals - Master and Slave Morality.” *Will to Power: the Philosophy of Friedrich Nietzsche* (The Teaching Company), audio recording.

<sup>2</sup> Alexandre Kojève, Introduction to the Reading of Hegel: Lectures on the Phenomenology of Spirit (Cornell University Press: Ithaca, 1980), 6.

<sup>3</sup> *ibid.*, 9.

their animal desire for survival and are willing to risk their lives in order to fulfill their human desire; that is, to be recognized by the other.

“One must refuse to risk his life for the satisfaction of his desire for ‘recognition.’ He must give up his desire and satisfy the desire of the other: he must ‘recognize’ the other without being ‘recognized’ by him. Now, ‘to recognize’ him thus is ‘to recognize’ him as Master and to recognize himself and to be recognized as the Master’s Slave. In other words, in his nascent state, man is never simply man. He is always, necessarily, and essentially, either Master or Slave.”<sup>4</sup>

The thought underlying the actions of the victor, the master, was “to conquer or to die.”<sup>5</sup> This thought was the mediator between feeling and action that allowed the master to overcome his animal instinct for survival and prevail over the slave. The slave, however, succumbed his survival instinct and therefore had no thought before his action. He acted on feeling alone. This leap from feeling straight to action, while negating thought, would become a primary characteristic of the slavish morality later defined by Nietzsche.

The slave recognizes the physical superiority of the master and the master’s desire to be recognized is fulfilled. From this point, the master wills and the slave fulfills – both the master’s desire for recognition and his physical needs. To Hegel, humanity begins as a mutually codependent relationship between men. The master can only be master by way of the slave’s recognition and the slave must recognize the master, else he will die at the master’s hand.

The strengths of the master’s character allowed him to fulfill his human desire and so he exalted those strengths, making them privileged virtues. The master called the virtues that allowed him to fulfill his human desire through dominance, ‘good’. Those virtues were his “most necessary self-expression and self defense.”<sup>6</sup> The strengths of the slave, however, were inadequate for fulfilling his human desire. He could not look within himself to find virtues so he created his morality by inverting his master’s morality. As Nietzsche saw it, the slave’s virtues are not a self-expression, but rather the opposite of a stronger man’s self-expression. The slave resented the master because he lived in a master’s world and did not have the means to compete for his freedom. Since the slave could neither be a master nor win his freedom, he created new virtues from the antithesis of the strengths he lacked and a new God to sit on the throne of those virtues. Whereas his master’s morality sought and won recognition, the slavish morality sought to glorify the unfulfilled lack of recognition.

---

<sup>4</sup> *ibid.*, 8.

<sup>5</sup> *ibid.*, 16.

<sup>6</sup> Friedrich Nietzsche, *The Anti Christ: An Attempt at a Critique on Christianity*. §11.

“The slave revolt in morality begins when resentment itself becomes creative and gives birth to values: the resentment of natures that are denied the true reaction, that of deeds, and compensate themselves with an imaginary revenge. While every noble morality develops from a triumphant affirmation of itself, slave morality from the outset says No to what is "outside," what is "different," what is "not itself"; and this No is its creative deed. This inversion of the value-positing eye—this need to direct one's view outward instead of back to oneself—is of the essence of resentment; in order to exist, slave morality always first needs a hostile external world; it needs, physiologically speaking, external stimuli in order to act at all—its action is fundamentally reaction.”<sup>7</sup>

This, for Nietzsche, was the birth of the Western conception of good and evil. This God was created to give hope to the hopeless, to empower the powerless, and to give freedom to those who would never be free. Humility, suffering and servitude were given a new place as privileged virtues to provide an escape from the imposed miseries of life – a coping mechanism for an impotent herd.

Generation after generation handed down the moral code of the slaves until right and wrong became a forgone conclusion. Thought was removed so that feeling led straight to action. “When the mob once learned to believe without reasons,” Nietzsche says, “who could overthrow that with reasons?”<sup>8</sup> He accuses man of sitting on the old conceit “that they have long known what is good and evil.” There is no longer thought, evaluation, or trial behind our virtues. “All talk of virtue seem[s] an old and weary matter to man.”<sup>9</sup> As Nietzsche would have it, man still believes in good and evil but he knows not why.

The Christians cast their god in the image of a different master who outranked earthly rules. This vision of God was a new overarching metaphor to replace the old. It was a new myth to direct the efforts of individuals towards a single goal. Whereas the old gods celebrated the individual, the new guided men away from the strength of one and favored strength in numbers, instead. Nietzsche tells us, “The essential thing ‘in heaven and upon earth’ seems... to be a protracted obedience in one direction.”<sup>10</sup> Horst Hutter, a more recent Nietzsche scholar, likewise writes, “Religions are cultivating devices that provide visions of the overarching third that lies beyond... this allows cooperating groups and individuals to organize their striving.”<sup>11</sup> There were once many gods that organized striving towards many possibilities and goals. The slave revolt in morals created a singular entity that limited man to a single possibility and goal – the democratization of humanity so as to neutralize the dominance of a few. Nietzsche thought this new God took root and choked out all other overarching

---

<sup>7</sup> Friedrich Nietzsche, *The Genealogy of Morals*. §10.

<sup>8</sup> *ibid.*, 290.

<sup>9</sup> *ibid.*, 196.

<sup>10</sup> Friedrich Nietzsche, *Beyond Good and Evil* (Penguin Books: NY, 2003), 111.

<sup>11</sup> Horst Hutter, *Shaping the Future: Nietzsche's New Regime of the Soul and Its Ascetic Practices* (Lexington Books, 2006), 91.

metaphors in Western civilization, leaving a single goal towards which to strive. “The Virtue of the mob even says, ‘I alone am virtue!’”<sup>12</sup>

Hutter explains how “selves are socially constructed in the inner space called soul in original meetings with an Other.” As children, our parents teach us all that we know (and where there is an exception to this, we can still say all that we know as a child is taught to us by someone). Hutter calls this the “construction of identities through acts of cultural transmission.” He says, “Identities are constructed complexes of interaction between cultural and biological multiplicities. Primary drives are thereby transformed through moral judgments.”<sup>13</sup> In other words, the makeup of our inner self – our limits and possibilities, thus our very nature – is changed by moral input from “Others.” We are left to think on our own because, as Nietzsche says, “only feelings and not thoughts can become hereditary,” but our thoughts are based in our feelings and the foundation of those feelings – our morality – is given, not chosen.<sup>14</sup>

Nietzsche thought that through cultural transmission, morality became habit and the overarching metaphor that once united man’s striving was diluted to a meaningless tradition. Humanity came to lack a common goal and yet was unaware. Nietzsche saw a sickness called nihilism that had evolved from generational diffusion of this slavish morality – a sickness that was a belief in nothing. Man once believed in God and acted according to that belief. Over time, he came to follow the same actions as a course of habit but forgot his belief in God that gave the actions value. Man continued to believe in good and evil and the virtues of the Christian God, though he no longer actually believed in that God, Himself. When Nietzsche confronted the concepts of good and evil, he exposed the emptiness of the slavish virtues blindly adhered to by society. To Nietzsche, man had become a slave without a master.

Nietzsche thought that man invented God through faith and then killed him with reason and disbelief. But even though the old metaphor no longer held absolute sway, none had yet risen to replace the dead God. While the Christian virtues were still lifted high, the meaning – the thought – behind those virtues had long been lost. With the single goal of striving no longer present, all that was left was a hollow sense of good and evil.

And so we arrive at our morality today. Following Kojève’s and then Nietzsche’s philosophies, if we understand the historical relationship between master and slave, then we understand that the fundamental component of our western morality is resentment. If we understand resentment as the basis for our morality, then we understand that our morality is a contrived thing. If

---

<sup>12</sup> Friedrich Nietzsche, *Thus Spoke Zarathustra* (Modern Library: New York, 1995), 246.

<sup>13</sup> Hutter, 77.

<sup>14</sup> Friedrich Nietzsche, *The Dawn of Day* (Dover Publications: Mineola, 2007), 37.

we understand morality is a contrived thing, then we understand that it is not absolute, as our inherited feeling would have us believe. And if we understand that morality is not absolute and is inherited, then we understand that morality, historically, is merely an inherited tradition of privileged virtues. As Nietzsche said in *Daybreak*, “Morality is nothing else (and above all nothing more) than obedience to customs, of whatsoever nature they may be.”<sup>15</sup>

---

<sup>15</sup> *ibid.*, 14.

### 3. What, then, is architectural morality?

If morality is historically a tradition of privileged virtues, wherein architecture does its morality lie? Could it be that there is an intrinsic link between cultural morality and architectural morality? A contemporary of Nietzsche, John Ruskin (1819-1900) believed so, stating that, “there is a marked likeness between the virtue of man and the enlightenment of the globe he inhabits.”<sup>16</sup> He believed that the virtues of man are evident in the things he creates and that the same moral laws that govern our conception of right and wrong are closely related to the secular laws that govern our efforts in any given field of work.

“It has been just said, that there is no branch of human work whose constant laws have not close analogy with those which govern every other mode of man's exertion. But, more than this, [...] the mighty laws which govern the moral world. However mean or inconsiderable the act, there is something in the well doing of it, which has fellowship with the noblest forms of manly virtue; and the truth, decision, and temperance, which we reverently regard as honorable conditions of the spiritual being, have a representative or derivative influence over the works of the hand, the movements of the frame, and the action of the intellect.”<sup>17</sup>

John Ruskin wrote *The Seven Lamps of Architecture* (1880) as a guide to instruct architects how to design buildings with virtuous intentions through thoughtful and articulated architectural details. While Ruskin's explicit motive was the glorification of the Christian God, his analysis of architecture and of the craft of building is useful with or without the impetus to exalt a higher being. He speaks of Seven Lamps in the title as a reference to the passage in the Bible that reads, “Thy Word is a lamp unto my feet and a light unto my path.”<sup>18</sup> Likewise, Ruskin intends his book as a lamp at the feet that makes one aware of his footing and a light on one's path that illuminates the way ahead. While Nietzsche wants man to critically analyze his morality and then reinvent his own virtues, Ruskin is attempting to illuminate the values already present in the discourse of architecture.

“I have long felt convinced of the necessity, in order to its progress, of some determined effort to extricate from the confused mass of partial traditions and dogmata with which it has become encumbered during imperfect or restricted practice, those large principles of right which are applicable to every stage and

---

<sup>16</sup> John Ruskin, *The Seven Lamps of Architecture* (Dover Publications: Mineola, 1989), 29.

<sup>17</sup> *ibid.*, 4.

<sup>18</sup> Psalms 119:105

style of it. Uniting the technical and imaginative elements as essentially as humanity does soul and body...”<sup>19</sup>

*The Seven Lamps of Architecture* predates Nietzsche’s philosophy on the death of God by almost thirty years but it follows Hegel’s philosophy on the same by almost fifty. Ruskin, either by way of Hegel or of his own accord, was aware of the disappearance of God from culture, as is evident when he wrote, “There can be no excuse accepted because the Deity does not dwell now visibly in His temple. If He [God] is invisible it is only through our failing faith.”<sup>20</sup> While there is no trace in his writings that he believed all values are historically conditioned, Ruskin did see man’s failing faith as the result of having compromised his principles to fit culture’s changing conditions. He saw the danger of losing touch with values and advocated turning away from the pursuit of knowledge for a time in order to reassert the authority of our judgment through the laying of fundamental laws based on our nature, not our wisdom. In other words, Ruskin tried to divert architecture from following culture into nihilism by re-establishing thought [judgment] as the mediator between feeling [nature] and action [building].

“There is no law, no principle, based on past practice, which may not be overthrown in a moment, by the arising of a new condition, or the invention of a new material; and the most rational, if not the only, mode of averting the danger of an utter dissolution of all that is systematic and consistent in our practice, or of ancient authority in our judgment, is to cease, for a little while our endeavors to deal with the multiplying host of particular abuses, restraints, or requirements; and endeavor to determine, as the guides of every effort, some constant, general, and irrefragable laws of right – laws, which based upon man's nature, not upon his knowledge, may possess so far the unchangeableness of the one, as that neither the increase nor imperfection of the other may be able to assault or invalidate them.”<sup>21</sup>

Ruskin demonstrated the realization of virtues in architecture because he saw that, along with failing faith, man (and likewise architecture) was suffering from a disappearance of principles. He resisted the onset of architectural nihilism by re-introducing moral principles as a component of thought to mediate between feeling and action in architectural design. Ruskin was interested in the effect of human work on architecture at a human scale – in a word, details. If men invest their principles in their work then they invest their whole self in their work and that work will be the embodiment of not only their skill, but also of their virtues.

---

<sup>19</sup> Ruskin, 3.

<sup>20</sup> *ibid.*, 16.

<sup>21</sup> *ibid.*, 3.

Morality cannot be isolated as a whole but can only be discussed in terms of the virtues that compose it. Would it not also follow that an architectural morality can only be discussed in terms of its architectural virtues? And what are architectural virtues? Ruskin found them in the work of individual men on large projects of architecture. In the cathedrals he cites as examples in *The Seven Lamps of Architecture*, he does not call attention to the form of the building, or to the planning, or to any other aspect of the overall design to speak of virtues, but instead he focuses on architectural details as wrought by individual craftsmen. To Ruskin, virtues are the characteristics that define morality and details are the characteristics that define architecture. Ruskin described the details of architecture in terms of the virtues they embody, thereby making them also the virtues of the architecture he is discussing. What Ruskin identified when he described the virtues of architecture was an architectural morality.



*Gamble House (Greene & Greene, Pasadena, CA, 1908)*<sup>22</sup>

This can be seen in two very different projects of architecture. First, the Gamble House, built in Pasadena, California in 1908 by Greene & Greene. This house, even at a distance, is rich with details that give it a textural quality that is undeniably human. As you approach it, your eye moves from one piece to another in an endless dance across the myriad of woodwork masterpieces that give the house its unique form and visual texture. Upon entering the house, you step into a world

---

<sup>22</sup> Image by Alex Vertikoff, *Gamblehouse.org* (<http://www.gamblehouse.org/photos/ext/Vertikoff-2071031-060b.html>).

resplendent with details that have been immaculately crafted by skilled human hands. There is no part of the Gamble house that does not reflect the presence of a human maker back onto a visitor.



*Half-wall at front stairs, Gamble House (Greene & Greene, Pasadena, CA, 1908)<sup>23</sup>*

The hallmark of the Gamble House is its emphatic joinery, treated so as to call attention to the places where materials meet instead of hiding them. Every detail in the Gamble House speaks of the patience of the craftsmen long after their passing. A half-wall by the front stairs has an intricate series of finger joints with edges slightly rounded so as to expatiate the connection. Complex wooden forms are made to seem more elaborate by the visual distinction created between pieces through reveals and rounded edges. Every screw is countersunk and plugged to further add the visual distinction of an array of off-colored dots spaced out on every surface.

A handcrafted sconce in the living room is hung from a composite of timber beams joined with blocks, pins, shims and iron straps. The use of composite members in place of the more common single-piece rafters not only tells of the designer's dedication to visual intricacy through

---

<sup>23</sup> Edward R. Bosley. *Gamble House* (Phaidon Press: London, 1992), 35.

manipulation of a limited material palette but also of his willingness to invest himself in complex details in spaces that are unlikely to be often seen, a virtue praised by Ruskin.<sup>24</sup>



*Living Room detail, Gamble House (Greene & Greene, Pasadena, CA, 1908).*<sup>25</sup>

A flat wall in the living room could easily have been built of sheet material but is, instead, an assemblage of boards, blocks and iron straps that emulates the woodwork throughout the house. Few elements are constructed of single pieces of wood, in fact. Instead, the house is an assemblage of assemblages, showcasing at every turn the dedication of the craftsmen in its construction. Details are so intimately worked that the mind wanders to imagine the craftsmen as they stood there cutting,

---

<sup>24</sup> “There is no need to offend by importunate, self-proclaiming splendor. Your gift may be given in an unassuming way. Cut one or two shafts out of a porphyry whose preciousness those only would know who would desire it to be so used; add another month’s labor to the under cutting of a few capitals, whose delicacy will not be seen nor loved by one beholder of ten thousand; see that the simplest masonry of the edifice be perfect and substantial; and to those who regard such things, their witness will be clear and impressive; to those who regard them not, all will at least be inoffensive.” (Ruskin, 19)

<sup>25</sup> Edward R. Bosley. *Gamble House* (Phaidon Press: London, 1992), 37.

shaving, carving, and joining. In building the details of this house, the craftsmen also built a memory of their presence that outlived them, also a virtue praised by Ruskin.<sup>26</sup>

In the choice of material, the details privilege the eyes with their intricacies, the nose with the full, earthy smell of wood, the hands with the grain of the wood and the smoothness of its finish, and the ears with the sounds of footfalls as you move across the wooden floors. The details of the Gamble House are virtues of patience, propriety, precision, durability, complexity, and full investment of ability and effort on the part of a human designer and builder.



*Farnsworth House (Mies van der Rohe, Plano, IL, 1951)*<sup>27</sup>

In contrast, the Farnsworth House, built in Plano, Illinois in 1951 by Ludwig Mies van der Rohe, tells of an altogether different architectural morality. On approach, instead of details, the eye is drawn by the stark, austere architectonic form nestled at the edge of a small clearing in the woods by the river. The geometry of the planes and the brilliant white color make the house seem diametrically opposed to the nature it is situated in, showing a mastery over nature in its visual distinction and physical separation. Inside, the seamless white concrete ceiling floats lightly over the smooth travertine floor. Thin mullions in the all-glass walls and the steel vertical I-beams supporting the

---

<sup>26</sup> “...the only witnesses, perhaps, that remains to us of the faith and fear of nations. All else for which the builders sacrificed, has passed away – all their living interests, and aims, and achievements. We know not for what they laboured, and we see no evidence of their reward. Victory, wealth, authority, happiness – all have departed, though bought by many a bitter sacrifice. But of them, and their life and toil upon the earth, one reward, one evidence, is left to us in those gray heaps of deep-wrought stone. They have taken with them to the grave their powers, their honours, and their errors; but they have left us their adoration.” (Ruskin, 28)

<sup>27</sup> Image from *Architecture Week* ([http://www.architectureweek.com/2004/0128/news\\_1-1.html](http://www.architectureweek.com/2004/0128/news_1-1.html)), 2004.

structure are spaced regularly around the perimeter, holding both the floor and the ceiling aloft with unexpected grace and elegance. This minimal structure blurs the boundary between inside and outside and enhances the presence and absence of the sun.



*Farnsworth House (Mies van der Rohe, Plano, IL, 1938)*<sup>28</sup>

The center service room is wood with carefully hidden joints that leave the construction unseen. The seams at cabinet doors are minimized and the doors themselves given the proportion of an entire wall so that, without any hardware to be seen, you are left to forget which is a door and which is a wall panel. The Farnsworth House negates its details so that your experience in the house is not interfered with by the house, itself. The clean, machine-precision details hide their own presence, such that the effect of the structure is felt but the structure, itself, does not impose on that experience. In the choice of materials and the forms they take, the details privilege aesthetics and phenomenon over the comfort of the body. The details of the Farnsworth house speak of mastery, of blurring boundaries, of adaptation, and of negation, an altogether different morality than the Gamble House.

Architectural morality, itself, is unseen and unknowable but it underlies the decisions and actions that make the built environment. The evidence of an architectural morality lies in the details

---

<sup>28</sup> Maritz Vandenberg. *Farnsworth House* (Phaidon Press: London, 2003), 35.

of a building. These details tell of the architectural morality the way the virtues of a man tell of his personal morality. Architects are investing less time and thought in the details of our built environment today. With the disappearance of meaningful details follows the disappearance of a meaningful architectural morality. Our built environment is becoming more lifeless, machined, and inhuman. To return the life to our buildings, to return the humanness to our built environment, we must invest more of ourselves in the details of a building, for only when we invest ourselves in details are we invested in architecture's virtues.

## 4. What is the value of craft?

In *The Seven Lamps of Architecture* Ruskin distinguishes carefully between “building” and “architecture,” defining architecture as, “the art which so disposes and adorns the edifices raised by man, for whatsoever uses, that the sight of them may contribute to his mental health, power, and pleasure.” Building, on the other hand, is simply, “to put together and adjust the several pieces of any edifice or receptacle of considerable size.”<sup>29</sup> Ruskin clarifies that “It is the addition of the mental [...] which separates architecture from a wasps nest, a rat hole or a railway station.”<sup>30</sup> This mental aspect is Ruskin’s focus as he advocates applying personal virtues to the details of a structure in order to surpass the simple act of building, which “does not become architecture merely by the stability of what it erects.”<sup>31</sup>

To Ruskin, Architecture is that which is not necessary in a building. It is the extra work put into a carving or the extra thought put into a clever arrangement of columns. “Architecture concerns itself only with those characters of an edifice which are above and beyond its common use,”<sup>32</sup> says Ruskin. To put only what is necessary into a building is to be efficient or to be economical. To add something extra is to add ornament, which Ruskin values because it pleases the human spirit through the thought, the work, and the intuition embodied in its creation. It is in this ornament, this extra touch, that man’s virtues can be seen. While Ruskin aims to display the virtues of his own particular [Christian] morality in *The Seven Lamps of Architecture*, it is not his personal morality in which we are interested as much as it is his means for realizing that morality in built form. “For, observe,” he says, “it is not now the question whether the fairness and majesty of a building may or may not answer any moral purpose; it is not the *result* of labour in any sort of which we are speaking.”<sup>33</sup> What Ruskin is saying is that the act of building is more important than the building, itself, because it is in the act of building that man imparts virtues into his work.

“But so long as men work *as* men, putting their heart into what they do, and doing their best, it matters not how bad workmen they may be, there will be that in the handling which is above all price: it will be plainly seen that some places have been delighted in more than others – that there have been a pause, and a care about them; and then there will come careless bits, and fast bits; and here the

---

<sup>29</sup> Ruskin, 8.

<sup>30</sup> *ibid.*

<sup>31</sup> *ibid.*

<sup>32</sup> *ibid.*

<sup>33</sup> *ibid.*, 11.

chisel will have struck hard, and there lightly, and anon timidly; and if the man's mind as well as his heart went with his work, all this will be in the right places, and each part will set off the other; and the effect of the whole, as compared with the same design cut by a machine or a lifeless hand, will be like that of poetry...<sup>34</sup>

Why is it important that architecture be more than a building? Because while man is an isolated being and can never share in the subjective experience of another, architecture provides a common point of reference between individuals that allows them to share an objective experience. We can only live a shared experience amidst a world of objects and, outside of our self, that shared experience is the only thing we can 'know'. The built environment indicates to man how to move and how to rest and where to act and where to contemplate. Buildings are the closest thing man gets to an instruction book, and yet, of late, they have been ominously silent where they once sang of the virtues of their creators. Once, the built environment helped man to relate to other men, but now it helps man relate more to systems and structures than to humanity.

Hannah Arendt (1906-1975) explains that "the things of the world have the function of stabilizing human life, and their objectivity lies in the fact that [...] men, their ever-changing nature notwithstanding, can retrieve their sameness, that is, their identity, by being related to the same chair and the same table."<sup>35</sup> We find a commonality with other humans in the world of things, of which the built environment is the majority. The buildings that we construct are important for more than shelter because they are a durable common experience. Every virtue, every detail, of a building becomes a point of reference that we use to confirm our own humanity. We can't know the mind of an Other but when we relate ourselves to a building we can imagine how an Other also relates. In *The Gay Science*, Nietzsche writes, "We wish to see ourselves translated into stone and plants, we want to take walks in ourselves when we stroll around these buildings and gardens."<sup>36</sup>

---

<sup>34</sup> *ibid.*, 169.

<sup>35</sup> Hannah Arendt, *The Human Condition* (University of Chicago Press: Chicago, 1958), 137.

<sup>36</sup> Friedrich Nietzsche, *The Gay Science* (Cambridge University Press: Cambridge, 2001), 160.



*Entrance to the New Reich Chancellery (Albert Speer, Berlin, 1938)*<sup>37</sup>

The virtues of a building shape the reflection we see when we subconsciously seek confirmation of our relation to other humans. For example, in Albert Speer's New Reich Chancellery in Berlin (1938), the building's virtues were intended to impress upon a visitor a sense of timelessness, durability, grandeur, might, and pride. Speer intended and acknowledged this, saying of the grand procession that led to the Chancellor's office, "The long journey from the foyer to the reception hall will surely demonstrate something of the greatness and the power of the German Reich."<sup>38</sup> Visitors seeking audience with the Chancellor were first confronted with an entrance courtyard where every element was of a massive scale, making them feel small in the space. The visitor approached along a central axis towards an entrance façade that was flanked by two colossal statues of male nudes in classical Greek poses. These not only established the presence of an ideal human body against which the visitor could contrast his own imperfect form, they also hearkened back to an idealized memory of the Greeks and visually connected the Reich to a noble lineage through art. Though more than five stories high, the walls enclosing the courtyard have only two levels of windows, both of monumental scale, that further enhance the grandeur of the space by skewing the expected proportional relationship between an individual, a window, and the floor heights of a building. The plinth on which the Reich Chancellery sat was, itself, the height of a man

---

<sup>37</sup> Digital reconstruction by Frank Thadeusz, *Welcome to Hitler's Chancellery*, [www.spiegel.de/international/0,1518,407231,00.html](http://www.spiegel.de/international/0,1518,407231,00.html) (March 2006).

<sup>38</sup> Frank Thadeusz, *Welcome to Hitler's Chancellery*, [www.spiegel.de/international/0,1518,407231,00.html](http://www.spiegel.de/international/0,1518,407231,00.html) (March 2006).

and raised the building above the visitor. Every detail of this courtyard entrance was designed to humble the visitor and when he looked to the building to find confirmation of his relation to other humans, the reflection that returned to him was of a man insignificant compared to the occupants of the building.

Speer understood the communicative power of details. He also understood the potential lasting influence of creating durable objects. The Reich's Chancellery was an object in the common space between men that would speak the virtues Speer chose for it to speak. In designing it to be built of marble, he intended that those virtues would remain with man long after his passing. Ruskin, too, saw that architecture could be a durable mediation between man and his environment. He wrote:

“It is in their lasting witness against men, in their quiet contrast with the transitional character of all things, in the strength which, through the lapse of seasons and times, and the decline and birth of dynasties, and the changing of the face of the earth, and of the limits of the sea, maintains its sculptured shapeliness for a time insuperable, connects forgotten and following ages with each other, and half constitutes the identity, as it concentrates the sympathy, of nations.”<sup>39</sup>

The built environment was once the most durable of objects in man's reality. Buildings outlasted the short lives of men and so the virtues of one generation were carried across to many ensuing generations. Today, though, the prevailing architectural morality devalues durability for the sake of other fiscal imperatives, such as speed in construction, marketability, and cost. Arendt tells us that, “without being at home in the midst of things whose durability makes them fit for use and for erecting a world whose very permanence stands in direct contrast to life, this life would never be human.”<sup>40</sup>

It is this durability that distinguishes between the two types of men who create our world. She writes, “the work of our hands, as distinguished from the labor of our bodies – *homo faber* who makes and literally ‘works upon’ as distinguished from the *animal laborens* which labors and ‘mixes with’ – fabricates the sheer unending variety of things whose sum total constitutes the human artifice.”<sup>41</sup> *Homo faber* makes, or fabricates, durable objects that fill the world around us while *animal laborens* makes the goods that we need to consume in order to survive. The primary characteristic of use objects that separates them from consumable goods is that “their proper use does not cause them to disappear and they give the human artifice the stability and solidity without which

---

<sup>39</sup> Ruskin, 187.

<sup>40</sup> Arendt, 135.

<sup>41</sup> *ibid.*, 136.

it could not be relied upon to house the unstable and mortal creature which is man.”<sup>42</sup> To work is to strive for mastery over materials and create for creation’s sake. To labor is to be enslaved by the necessities of the body.

Technological culture strives towards the sameness of efficiency and, for this, we have stopped using our hands to create the world around us because our hands are ‘inefficient.’ Arendt tells us that “the things of the modern world have become labor products whose natural fate is to be consumed, instead of work products which are there to be used.”<sup>43</sup> In our pursuit of efficiency, we are removing the work of *homo faber* from the world of objects and are replacing it with machined goods – the technological equivalent to *animal laborens*. As a result, the world of durable objects around us is being supplanted with the products of labor, meant for consumption, which “do not stay in the world long enough to become a part of it.”<sup>44</sup> We have become a society that thrives on consumable goods and our built environment is following suit; architecture, once the most durable of objects, is, itself, viewed as a consumable good. Along with the devaluation of durability and the increasing ephemerality of architecture, we no longer choose what virtues we wish our buildings to speak. Instead of designing and building with the intent of creating something virtuous, we design and build in order to fulfill a select few virtues, such as speed and minimal input. *Animal laborens* is usurping *homo faber* in his role as creator in our culture.

It is in the ranks of the downcast *homo faber* that one finds the craftsman. To make durable objects requires care, time, and attention. Richard Sennett, a student of Hannah Arendt, explains in his book, *The Craftsman* (2008), that craftsmanship “represents the special human condition of being engaged.”<sup>45</sup> The craftsman’s skill comes from tradition and experience. The tradition comes by way of a master who imparts the collective knowledge of those who came before him. Through experience, then, he learns how to apply that knowledge to overcome obstacles and unforeseen circumstances that arise in his work. He is close to the materials he works with and, through practice, becomes more accustomed to those obstacles until they are no longer unforeseen, but anticipated. The craftsman applies his intuition to raw materials to fashion durable objects for the world of things. He is committed to excellence in his work as a matter of pride and has within him “an enduring, basic human [...] desire to do a job well for its own sake.”<sup>46</sup>

The craftsman’s learning comes almost exclusively through an oral tradition. His knowledge is imparted by way of narratives because craft knowledge can scarcely be conveyed through exacting

---

<sup>42</sup> Ibid., 136.

<sup>43</sup> Ibid., 124.

<sup>44</sup> Ibid., 118.

<sup>45</sup> Richard Sennett, *The Craftsman* (New Haven: Yale University Press, 2008), 104.

<sup>46</sup> Ibid., 9.

instructions. When setting bricks, for example, the water in the mortar must be allowed to evaporate just enough so that the brick sets firm. It is difficult, if not impossible, to describe verbally the exact amount of water or the exact time necessary to wait. Through narrative, though, the procedure can quite clearly be explained:

A young Italian architect watched one day as a craftsman built a brick vault. The craftsman would spread mortar on the vault overhead, then stoop to retrieve a brick from a stack at his feet and stand to place it in the mortar bed he had just laid. The young architect asked why the craftsman did not use a table to stack the bricks and an apprentice to hand them one at a time. This, the young architect thought, would save much time and effort. The craftsman replied to the young architect that the time it took to retrieve a brick from his feet and stand again to place it overhead was exactly the time needed for the mortar to set just right in order to prevent cracking. If he went faster, if he were more 'efficient' in his work, the mortar would be too wet when he set the brick and the vault would crack.<sup>47</sup>

Through this narrative, not only is the procedure clearly explained, but it is also set to memory quite vividly. By passing knowledge through narrative, the storyteller allows room for judgment and intuition to be brought to bear on future work. If the process were explained systematically, one would not have room for his intuition, but would instead be laboring mechanically according to instructions. Craft is inherently linked to storytelling.

Storytelling, though, is a dying art in itself. Walter Benjamin (1892-1940) explains in his essay, "The Storyteller," that the art is coming to an end because we have lost the ability to exchange experiences. No longer can a building simply be described in words to the men constructing it, allowing them to work within their expertise to construct the architect's conveyed vision. Instead, architects must now specify every aspect of it in writing, from the types of nails to the number of coats of paint to apply. This change in practice is indicative of, both, a loss of skilled builders and a loss of craft in design. Storytelling is no longer viable as a means of communication in making the built environment because our goal is not to build a good building, but to perfectly follow instructions. As Sennett tells us, "The standard of perfection allows no room either for experiment [or] for variation."<sup>48</sup>

It is through experiment and variation that Craftsmen imbue their work with aura. Aura is a unique essence surrounding a person or thing. To the Greeks, aura was first understood as the unique aroma surrounding a person, and much later it was appropriated by religion to speak of something bathed in its own light. In his essay, "Art in the Age of Mechanical Reproduction," Benjamin tells us

---

<sup>47</sup> Marco Frascari, interview held at Azrieli School of Architecture, Carleton University, Ottawa, Ontario, May 2008.

<sup>48</sup> Sennett, 104.

that aura “is the essence of all that is transmissible from its beginning, ranging from its substantive duration to its testimony to the history which it has experienced.”<sup>49</sup> The products of work have an aura because they are original, unique, and authentic creations. Their uniqueness as objects and their authenticity gives them an authority that translates as aura.

Benjamin further defines aura as a “unique phenomenon of distance.”<sup>50</sup> Aura decreases in proportion to the distance it is removed from the original. One can sense the presence of the maker in the essence of a crafted object, even in the absence of the craftsman, because the object is only one step removed from its origin – that is to say, it is the same object that was held in the hands of its maker. The products of labor, however, have no aura because they are produced mechanically (figuratively speaking) and are not original, unique, or authentic. The consumable goods made through labor must be produced en masse to satisfy the needs of the masses and are replicas far removed from any original, if indeed an original did exist. When the craftsman puts his hand to the built environment, he is leaving behind objects that have the aura of their human creator. It is in this aura that we find the reflection of our humanity.

For aura to exist in an object, it must have a maker. Technology, however, has removed the maker from the picture. As the new overarching metaphor for our culture, technology seeks efficiency in all things. Efficiency nullifies the difference between means and ends. In the creation of objects, that difference comes by way of the maker. The difference between means and ends is greater when the maker is human and less when the maker is technology, so in the quest for sameness, our technological society is replacing the human maker with the machine; *homo faber* is being overcome by *animal laborens*.

Another way to view this cultural shift is to look back to Aristotle’s four material causes outlined in book II of *Physics*. According to Aristotle, all man-made objects have four causes, or explanations for their being: material, formal, efficient, and final. The material cause is “that from which a thing is made and continues to be made.”<sup>51</sup> The formal cause is “the formula for what a thing is,”<sup>52</sup> or the ideal form to which it ascribes. The efficient cause is “the original source of change or rest,”<sup>53</sup> or the agent of its creation. (It is important to note here that Aristotle’s use of the word efficient is different from the technological use of the same word: to Aristotle, the efficient stems from the Latin word, “*efficere*,” which means “maker”<sup>54</sup>) And lastly, the final cause is “what

---

<sup>49</sup> Walter Benjamin, “The Work of Art in the Age of Mechanical Reproduction” in *Illuminations*, ed. Hannah Arendt (New York: Schocken Books, 1968), 223.

<sup>50</sup> *Ibid.*, 221.

<sup>51</sup> Aristotle, *Physics*, trans. Robin Waterfield (Oxford University Press, 1999), 39.

<sup>52</sup> *ibid.*

<sup>53</sup> *ibid.*

<sup>54</sup> Marco Frascari, interview held at Azrieli School of Architecture, Carleton University, Ottawa, Ontario, May 2008.

something is for.”<sup>55</sup> In the technological quest for efficiency (as a means-ends relation), however, man has foreshortened the four causes by removing the efficient cause, that is, man has removed the maker from the equation. This leaves us with three causes for man-made objects: material, formal, and final. Our built environment today is becoming faceless, as we culturally assume technology to be the maker of all things. Material takes on form through the labor of machines (and machine-like men – *animal laborens*) in order to achieve its purpose.

Without man as maker, there is little aura being added to our built environment. Aura in architecture was re-enforced by the virtues, or details, of buildings that are now standardized where they were once left open to experiment and variation by men trained through a tradition of storytelling. If we continue to overlook the virtues of our buildings and design without human presence in the details of our built environment, then we will usher our culture down the aisle to be wed to the nihilism that Nietzsche warned of. He, too, saw the emptiness in our buildings and wrote in aphorism 218 of *Human, All Too Human*:

Stone is more stony than it used to be. In general we no longer understand architecture [...] We have grown out of the symbolism of lines and figures, just as we have weaned ourselves from the sound-effects of rhetoric, and no longer imbibe this kind of cultural mother’s milk from the first moment of our lives. Everything in a Greek or Christian building originally signified something, and indeed something of a higher order of things: this feeling of inexhaustible significance lay about the building like a magical veil. Beauty entered this system only incidentally, without essentially encroaching upon the fundamental sense of the uncanny and exalted, of consecration by magic and the proximity of the divine; at most beauty mitigated the dread – but this dread was everywhere the presupposition. What is the beauty of a building to us today? The same thing as the beautiful face of a mindless woman: something mask-like.<sup>56</sup>

We must overthrow empty, machined architectural virtues and instead create value-laden, handcrafted ones. Craftsmen can be our liberation because in crafted objects, the products of work, we can see a reflection of humanity. We can see a reflection of ourselves as intuitive beings. We can see a reflection of our cultural beliefs. But in machined objects, the products of labor, we see, instead, a reflection of ourselves as an insignificant one-of-many. We see a reflection of ourselves as planned and predictable beings. We see a reflection of cultural nihilism. Arendt tells us, “This world of

---

<sup>55</sup> Aristotle, 39.

<sup>56</sup> Friedrich Nietzsche, *Human, All Too Human* (Cambridge University Press: Cambridge, 1996), 101.

machines has become a substitute for the real world, even though this pseudo world cannot fulfill the most important task of the human artifice, which is to offer mortals a dwelling place more permanent and more stable than themselves.”<sup>57</sup>

We can re-appropriate the *efficient* as ‘maker’ and recover Aristotle’s material causes. Our new causes can be, first, the final cause: we outline the purpose or intention of the thing to be made. Second, we reinsert the efficient cause, the craftsman, and place the human maker before even the selection of material or form. Third, only after inclusion of the craftsman and his insight, we decide upon material, and lastly, we give the building its form as a resultant of its purpose, its maker and its material. In structuring the four causes as such, we insure that the craftsman is the locus of design and is no longer an afterthought, or worse, excluded from the process. When the craftsman lies at the beginning of the process of creating architecture, his values, his intuition, his insight, his expertise, and his experience all find their way into the details of our built environment as the virtues spoken of by Ruskin.

Architectural morality lies in its virtues, which are its details. When men lay intentions beneath their work in the design and construction of architecture, those intentions give meaning and significance to the building that will affect those who use it. Those intentions are given form through details which become the architectural morality of that building. Our architecture today increasingly lacks underlying intentions. Machines, and men who labor as machines, lack the ability to imbue the products of their labor with value. We find ourselves as designers in that time Nietzsche foretold of when virtue is an “old and weary matter to man.”<sup>58</sup> Architectural virtues are no longer individually crafted for unique situations but have often become standardized by-products of standardized designs. Our built environment should be saturated with virtues too human to be machined, too unique to be standardized, and too intuitively crafted to be obsolete. We have to mould our built environment so that it has more value than time and money. The craftsman will be our deliverance from a built environment with no values.

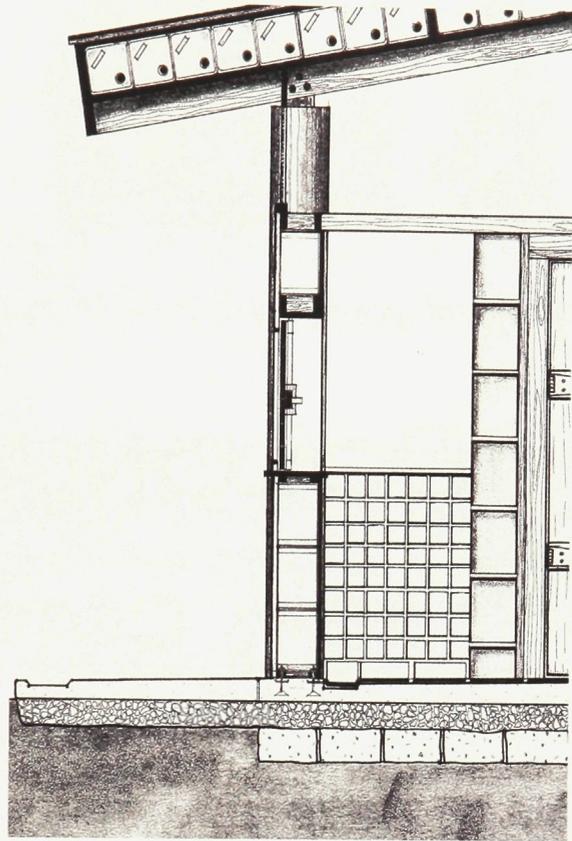
---

<sup>57</sup> Arendt, 152.

<sup>58</sup> Friedrich Nietzsche, *Human, All Too Human*, 196.

## 5. Demonstration:

To demonstrate the value of craft as the basis for a new architectural morality, I have designed a school for the training of craftsmen in the Dharavi slum of Mumbai, India. As architects, our influence exists primarily through our buildings and so our part in the politics of establishing a new morality is confined to the things we build. If craft is to become a new architectural morality and not just a fashionable phase, we must sew its seeds deeper than in isolated designs or scattered constructions. We must create centers that educate men to become master craftsmen so that they might begin to fill the world with virtue-filled, handcrafted objects and teach others to become master craftsmen as well.



My thesis design proposal began as an orphanage for the raising and training of hinge makers. My intent was to establish a culture of crafts training that surpasses mere vocational schooling and merges life and craft through long-term enculturation and training. I selected hinge making as the skill to be taught because it is a very specific craft that is overlooked to the point of extinction in the built environment today. Whereas once there were men who specialized in designing, fabricating, and installing hinges on openings of all types, the industrial age saw that job relegated to machines and the value of unique handmade hardware in the built environment fell below the value of economy, efficiency, and sameness.

My chosen site was the Dharavi slum of Mumbai, India, where I intended to help alleviate the large numbers of orphaned children while providing a unique training opportunity that would add to the thin ranks of India's trained craftsmen. India lacks a significant number of formally trained craftsmen in all fields but education in India is generally reserved for businessmen, mathematicians, and those dealing with higher or abstract thinking. As a developing nation with an excess of

population, a shortage of work, and a shortage of housing, India would be well served by creating schools for training craftsmen who would build both their nation and an international renown for expertly made handicrafts.

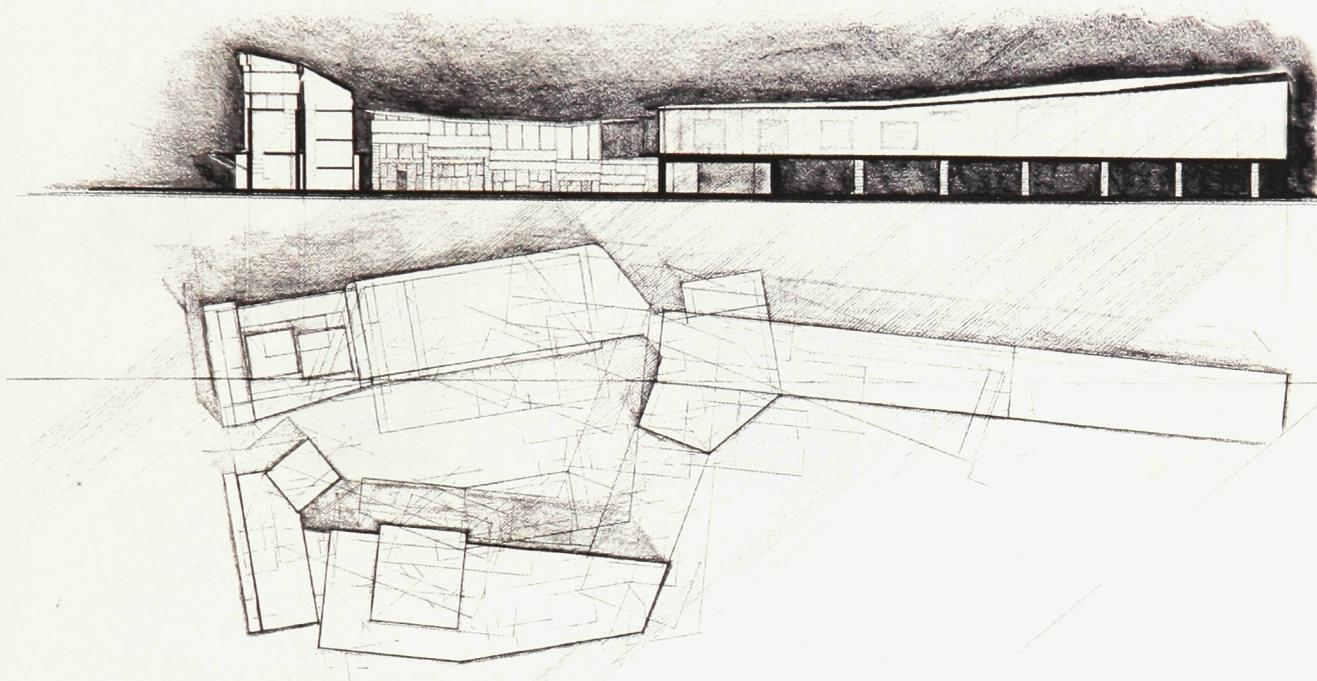


*Studies on Potential Relationships Between New Construction and Existing Dharavi Slum*

Having selected the slums of Mumbai as my site, I began my design by investigating through model the various ways a structure can exist amongst an organic clutter of smaller buildings. I modeled large and small structures in various relationships to their surroundings and concluded that if I were to design a single large building, then it would disrupt the fabric of buildings already present and would belie the fluid and organic nature of construction and of movement through those buildings. Every iteration of a large building seemed alien to the dense grouping of small houses. Not only was it unfit visually because of its size, it also implied either the unlikely task of finding a large open space in the slum or the undesirable task of demolishing slum homes to build my project. I also determined that my program required street access in order to receive materials and ship goods more easily, but that I required only a small part of my project to be accessible to the street, else I dominate the street front and shut other business and homes off from the life of the street. In the end, I decided on a complex of small two and three storey structures with one building having street front access and the rest trailing behind it into the fabric of the slum.

Next I began to write a program for the orphanage based on a fictive narrative of the Hinge maker's orphanage, in which the Hinge maker gathers together the Assistant, the Educator, and the Mother to found an orphanage where twenty-five children could be trained in the craft of making hinges. I chose an orphanage to train children instead of a school to train adults in order to represent a different kind of education, one based on acculturation where beliefs and values are transmitted through long-term contact as opposed to a mere part-time learning of skills. In this setting, malleable young minds could be fashioned through storytelling and dexterous young hands could be trained through practice, all the while contributing to an output of durable goods that would provide an economic basis for the school as well as build a reputation for its quality goods.

Each adult character was to receive their own space and the pupils were to share a common sleeping area, with additional spaces for the Mother to cook, the Educator to teach, the Hinge maker and his assistant to train, and the pupils to work. With this basic programmatic outline in mind, I designed first the plan, and then the section of my compound through pencil drawings. I took into account the communal lifestyle of the slum dwellers, weather, sun patterns, street orientation and the compound's relationship to the surrounding structures.

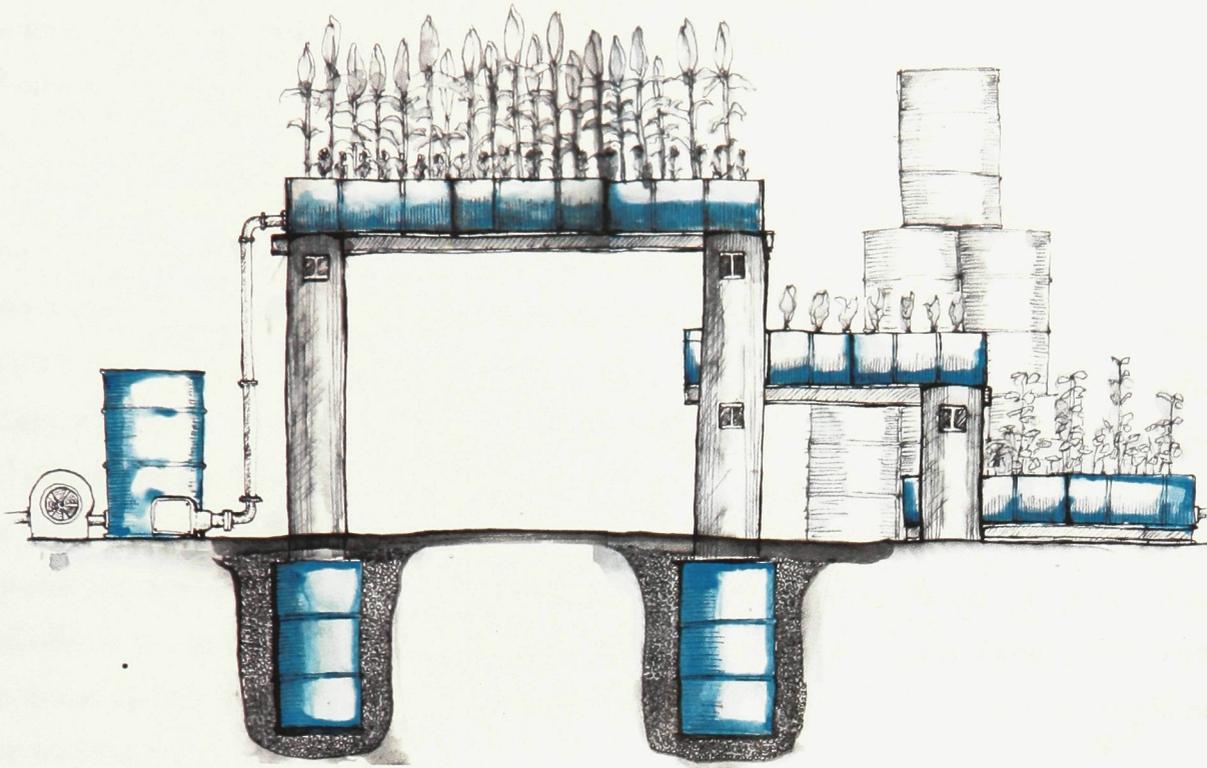


*Section and Plan of Hinge maker's Orphanage*

Large roofs overhanging partial walls with generous space left open between the two would provide natural ventilation and shade to stave off Mumbai's crippling heat and humidity. Thick walls made of tires, mud, and plaster would be used on the southern faces to provide thermal mass as further relief from heat. Sleeping areas would all be on the second storey in order to escape the filth and grime of the ground as well as to keep them dry through the frequent floods that accompany the seasonal rains. The complex would consist of six separate buildings conglomerated around a small open space that would be used as a place for gathering and for eating. All roofs would be shaped to drain the monsoon rainwater into an underground cistern where it would be stored for use throughout the year. Water filtration would be accomplished by a three-step bio filtration system adapted from Mike Reynolds' Earthships.<sup>59</sup>

---

<sup>59</sup> *Earthship Biotope* ([www.earthship.net](http://www.earthship.net)), 2006.



*Three-stage Biological Water Filtration System*

Once my program and plan were established, I began researching for images of the Dharavi slums, as this was the closest I could come at the time to a site visit at the time. After combing photo sharing sites and collecting images of the area around my site, I began closely scrutinizing the images for indicators as to what building materials were used locally and what non-architectural materials might be available that could be adapted for use in buildings. Combined with my research on Mumbai through literature and interviews, I made a list of materials that appeared to be commonly available, commonly used, or easily obtained. In the end, the core material list consisted of: used telephone poles, 6" wide flange steel beams, 55-gallon steel drums, used car tires, corrugated steel sheets, vegetable oil containers, heavy canvas tarp, and extruded aluminum studs. Secondary materials would be later added as necessary. With my material palette chosen, I revisited my plans and sections and redrew and modeled my project with the chosen materials.

In March 2008, I traveled to my site in Mumbai where I participated in an urban design workshop in Dharavi-Koliwada (a small village within the Dharavi slum) called Urban Typhoon. This workshop asked individuals from a range of fields – from architects to anthropologists, from urban planners to financial planners – to envision potential futures for Dharavi, which will soon

undergo development that will likely see more than 1 million slum dwellers displaced. For one week, I lived and worked amongst the Kolis in Dharavi and studied a small part of their lives and their situation. I moved freely through their urban village, spoke openly with residents, landowners, and business owners, and immersed myself in a village culture that survives today amidst the world's most populous city.

The buildings in Dharavi-Koliwada differ slightly from the buildings in the rest of Dharavi in that Koliwada is a fishing village that is older than Mumbai, itself, therefore it is composed of structurally sound concrete buildings instead of the ramshackle tin huts that crowd the rest of the slum. There is no discernable organization pattern to the colorful structures, but looking at historical maps, it becomes evident that homes were built to fill spaces between existing homes, leaving narrow 4' alleys between them. All buildings in Koliwada are houses, though some have been partitioned out to accommodate workshops, cottage industries, and merchants. The buildings are almost all two stories tall, and those that were not to begin with have had a second storey added on. A common practice is to combine adjoining properties by building a semi-enclosure between the two and then a common rooftop over both. Everywhere you look in Koliwada you see evidence of transformation in the buildings.



Every space unintentionally created by the haphazard assemblage of space in Koliwada is occupied. One of the first of my many misconceptions to be corrected was on the nature and use of space in Dharavi. My project was designed to house twenty-five children and five adults. For this occupancy, I allotted approximately 200 sqft per child and between 600 and 900 sqft per adult. I allotted upwards of 4500 sqft for workshop space, training space and classroom space. I took into consideration the density of the slums and organized my project's buildings around a small central open space. This seemed a reasonably tight fit, with some room left for future expansion of the program. On visiting Dharavi, however, I found that an average family of six sleeps in a 500 sqft space and that multiple families could occupy the 900 sqft I was allotting for a single adult in my design. On top of that, shops in Dharavi are run out of spaces far smaller than I thought necessary. One carpenter I came across was operating his business out of a room that measured no more than 150 sqft. Space is far more precious than I had anticipated. To compensate for small spaces, the line between indoor and outdoor is blurred to indistinction, as is the line between workspace, living space and sleeping space. The only activities carried on in the home are, generally speaking, sleeping, bathing and dressing. Socializing, eating, washing, playing and moreover general living occurs

outside of the home, either in the lane immediately outside the front door or in small accidental courtyard spaces that occur in the residential fabric. Most of life in the slums happens in public space.

As I first wandered through the narrow public spaces between the densely packed houses in Dharavi, I was taken aback at the amount of litter and grime that exists along with the overcrowding of slum life. There is a particular amorality among the Indian people regarding dirt and litter: it simply *is* and it is accepted as such. Whereas in both Muslim and Christian cultures, there is a direct link between morality and cleanliness, this connection does not exist in India's largely Hindu culture. In conversation with a village elder, it was explained to me that Indians lack the same sense of moral responsibility that largely keeps other cultures from littering.

Indian people are less concerned with the actions of others in a public space. In India, every aspect of the human spirit is celebrated, as is evident from their vast pantheon of gods (often numbered as high as 330 million gods). Every characteristic of humanity is given importance by assigning it to a deity and placing it amongst an endless list of celebrated virtues. Compare this to a Christian culture where a limited few characteristics are celebrated and assigned to a single deity, making all other traits undesirable, or evil. The Hindu culture in India lacks the bipolar sense of *good* and *evil* that is the hallmark of Christianity. When there is a single defined morality, the actions of others are easily categorized because everyone is reading from the same rulebook. One's aversion to *evil* leads one to identify and react to it in public venues. A sense of shame is inherent within our morality as a mechanism to insure adherence to the rules. Without a concept of *evil*, the actions of others are not so easily judged. There is no sense of moral shame in India because all things are in some way permissible.

Another of my mistaken preconceptions was the presence of orphaned children on the street, or rather, the lack thereof. I chose Dharavi as the site for my design project because statistical research named Mumbai as among those places having the largest population of street children. Dharavi, being Mumbai's largest slum, seemed to me the most likely place to find street children. As it so happens though, there are no street children in Dharavi. The street children are located further south in Mumbai where the tourists and the wealthy stay. In the slums there is no livelihood for street children.

There is really no place in the Dharavi social structure for orphans, especially in Koliwada. Koliwada is comprised almost entirely of families, most including more than one generation and more than one branch of the family tree. One man that I met had sixty-eight family members living in Koliwada, and his was not an outstanding case. I encountered no orphans and learned that there are

too few in the slums to be a significant factor. The lack of orphans in that area made my proposal to build an orphanage quite impractical.

What is fitting for the area, however, is a school for training craftsmen. Dharavi-Koliwada is under threat by developers because its monetary value outweighs its cultural or civic value. If it is to stave off redevelopment, Koliwada must have a purpose that outweighs its monetary value. If they can provide a unique contribution to Mumbai and to the whole of India, then they may be left alone to continue that work. What unique contribution does India lack that Koliwada might fulfill? It lacks schools for teaching craft skills. India is a developing nation and, as such, largely lacks a world of durable objects. India has great need for craftsmen, not only to build itself up, but also to provide a means of living for a poor and starving population. The Kolis, once a village of fishermen but now a village of unemployed men due to the destruction of their river, can reach out to gain the support of their neighbors and can invite local craftsmen to set up shops in their village area. After training their own men, the Kolis can begin to invite outsiders in to train and ultimately to work. Schools of this sort can generate revenue along with outside interest in the programs. The Kolis can remake Koliwada as a place that is internationally renowned for its highly skilled craftsmen, its beautiful handicrafts, and its schools that produce skilled workers.

I proposed this idea to a receptive Koli audience who lit up at the idea of once again having a purpose. They were concerned about finding space to accommodate such a school, but were generally in agreement that the idea had merit. I have received word since returning that, based on my presentation, the Kolis are in the process of creating a program that will bring technicians, craftsmen, artisans, and tradesmen from outside of Dharavi to take up temporary residency in the village in order to teach the locals new skills, crafts and trades.

Upon my return from India, my thesis project, once an orphanage for raising and training hinge makers, became a school for training craftsmen. I maintained the same form and re-inhabited the structure as the Kolis would, dividing the large, unseemly spaces into smaller, more fit spaces. In doing so, I increased both the living and the operational capacity of my project and ended up with a building more suitable to the spatial practices of the Koli people.

I propose to give space to metal smiths, carpenters, furniture makers, potters, tailors, mechanics, and weavers. If more craftsmen are trained, then more craftsmen will be involved in shaping the Built environment. If there are more craftsmen to shape the built environment, then architects will begin to incorporate more durable elements wrought from the craftsman's hand and intuition. As architects become more accustomed to designing for craftsmen to build, they will become more accustomed, too, to the craftsman's mentality in which experimentation and variation overcome perfection, durability overcomes efficiency, and work overcomes labor.

A school for training craftsmen is a means by which to recover Aristotle's fourth cause, as spoken of in the last chapter, and make the craftsman's work the basis for a new architectural morality. Architecture is too often built without the efficient cause – the agent. While material and final causes are still generally evident in our buildings, and the formal cause can be derived through contemplation, the efficient cause is often hidden or missing. The effect of restoring and abiding Aristotle's causes can be seen even in the design of a single room in the Dharavi crafts school.

The material causes for this room are varied: automobile tires, wooden telephone poles, large vegetable oil containers, corrugated tin, reclaimed tile, and locally made brick are at the core of the palette. I chose materials that can be recycled from other buildings and from urban waste in general in order to remain within the architectural language of reuse and adaptation that comprises the Dharavi slums already..

The formal causes of this room are the roof overhead, the walls enclosing the space, the doorway that allows passage and the window that lets in light and air. These are the elements that begin to shape the material into the idea of a room. They define the boundaries of the space as a form defines the boundaries of an object.

The efficient cause for this room is largely acknowledged through joinery and finishes. The most exposed connections, those on the underside of the roof, are mortise and tenon joints that are not only simple and strong, but also highly visible and indicative of the skilled hands that crafted them. Tenons pinned to composite rafters and tenons set in mortises cut through the posts give the structure a complexity and precision that can only be accomplished by a skilled craftsman. There is no evidence of machined tolerance, only crafted exactness. The tire wall is finished in stucco, leaving a texture that is imperfect, unique, and shows the motion of the trowel that fashioned it. Each sweep of the hand leaves a memory of the maker to be contemplated long after his departure. Interior surfaces not finished in stucco are tiled, leaving an inhabitant to reflect on the time-intensive nature of craftsmanship

The purpose for this room is shelter. Identifying this cause led to the use of a wide roof overhang to shelter from both, rain and sun, a thermal bearing wall to mitigate Mumbai's stifling heat, and open space between the top of the wall and the roof to allow generous airflow and spare the inhabitants from Mumbai's moist, stagnant air. The roof cavity between the corrugated tin on top and the plywood resting on the rafters is lined with empty vegetable oil cans, as is the wall cavity. Adapting this common household item to the room's enclosure provides a uniform and rigid air cavity as a thermal barrier to aid in resisting the sun's heat. Since the purpose of the room is also to house a person and his belongings, the empty thickness of the walls has been utilized to seat in-wall niches, shelves, cabinets and cubbies.

## 6. Conclusion:

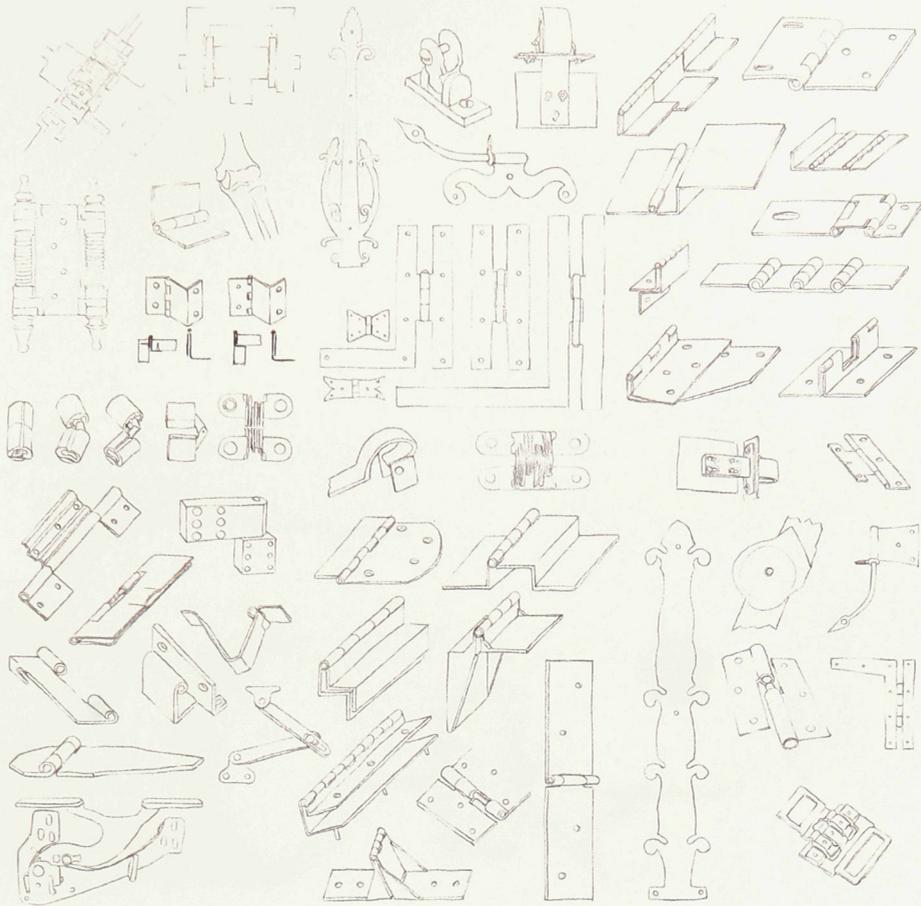
When I began my thesis, I intended to define a relationship between architecture and morality; that relationship, I have found, lies in the details of architecture. Details are to an architectural morality what virtues are to an ethical morality. But that doesn't make details ethical, nor does it give a building ethics. We can only interpret what we think the builder put into it and read ethics out of it. My thesis became about dissociating virtues from ethics and finding them, instead, in architecture.

Architectural details are the virtues of an architectural morality. Virtues exist even in the details of the most banal building. When designers fail to take the time or make the effort to fashion details, the details are still the virtues of the building. But when those virtues are not intentionally fashioned but occur, instead, as incidental moments amidst form, they are empty virtues that reflect a cultural nihilism instead of an individual human spirit. We traditionally value individualism but our values are shifting and we are being pulled by the system instead of our own wills. We don't personally value everything being the same, but because we value economy, efficiency, capital, and consumption more than we value individuality, our culture is lending more towards the sameness implied by those values of economy. As a consequence, our architectural values are shifting to match those cultural values that are being informed by consumption.

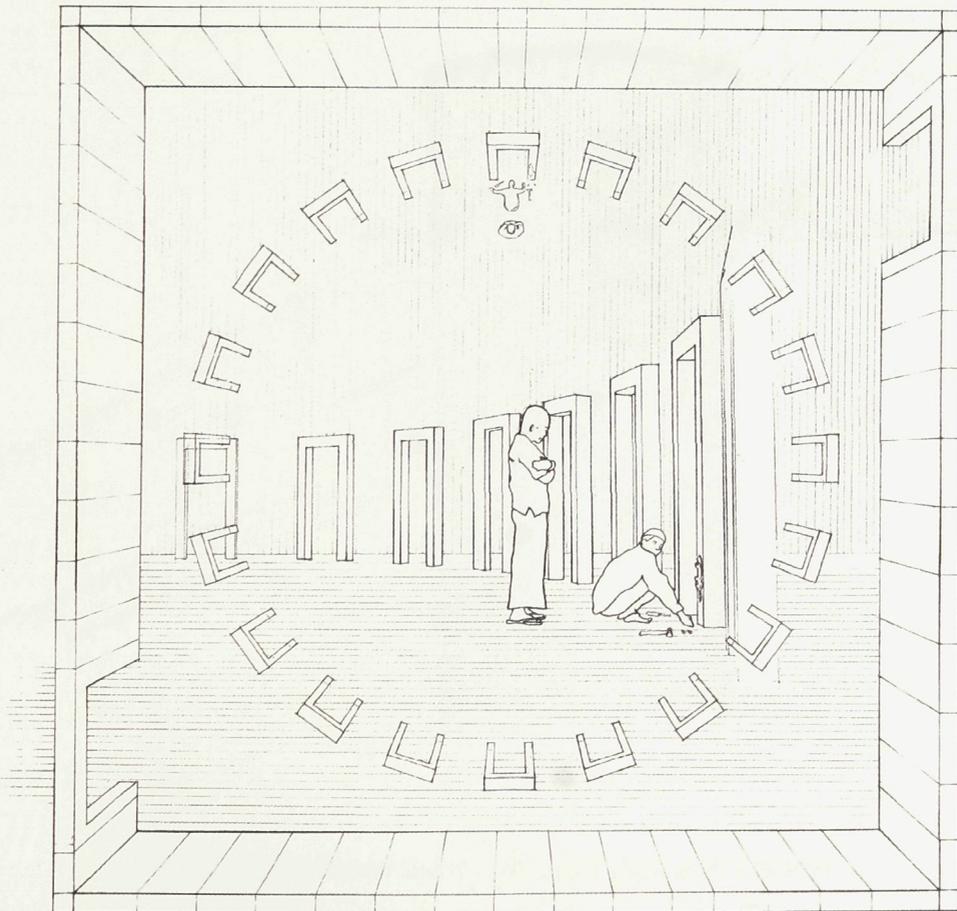
I have learned about the nature of morality through the eyes of Nietzsche, Ruskin, Arendt and Kojève. I learned that morality is an inherited set of privileged virtues and is, therefore, subjective. I have attempted to strip the boundary from what we perceive as morality... to create an unbounded sense of virtue. Details are the virtues of an architectural morality but those details are too overlooked to reflect the virtues of the architect who is trained to define space. At its most basic, our expertise lies in construction and how to keep the water out and let the light and air in. At its most complex, though, our expertise lies in how to make a person feel joy, awe, and wonder. We're trained to affect the human spirit. If we give attention to the virtues of a building, spend time on them, instill our own virtues in them and invest ourselves in their creation, then we will be working within our most complex area of expertise. Through focusing on details, we can build architecture that reinvigorates man and returns the dignity to a profession that is sliding into the depths of nihilism in its quest for efficiency.

## **Bibliography**

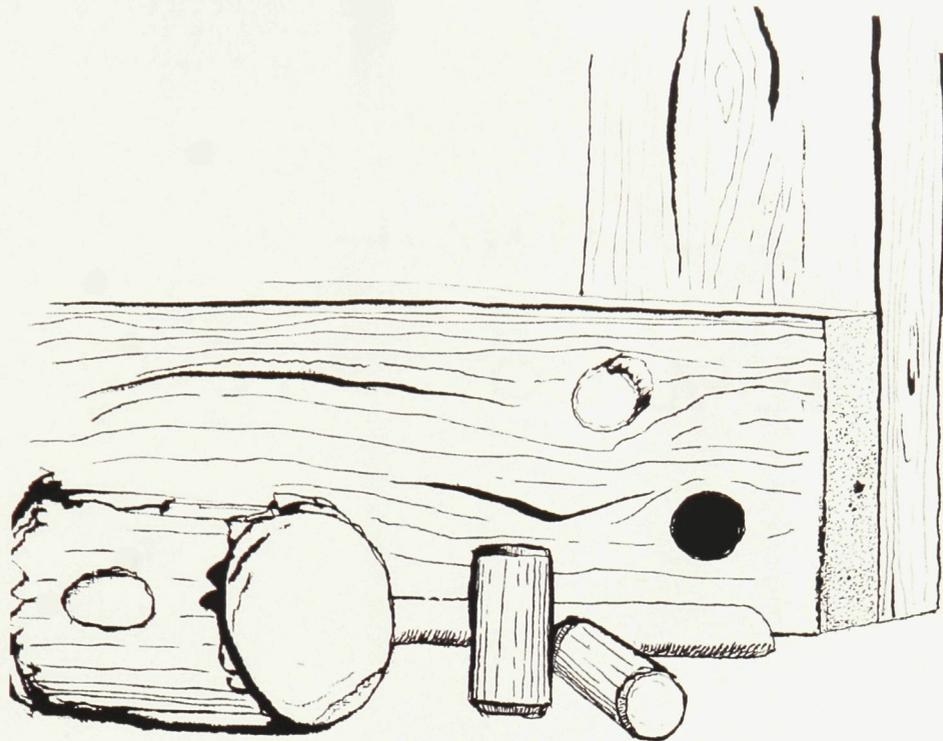
1. Arendt, Hannah. 1998. *The Human Condition*. Chicago: University of Chicago press.
2. Bosley, Edward R. 1992. *Gamble House, Greene and Greene*. London: Phaidon Press.
3. Cadwell, Michael. 2007. *Strange Details*. Cambridge: MIT Press.
4. Kojève , Alexandre. 1980. *Introduction to the Reading of Hegel: Lectures on the Phenomenology of Spirit*. Ithaca, NY: Cornell University Press.
5. Krufft, Hanno-Walter. 1994. *A History of Architectural Theory from Vitruvius to the Present*. New York: Princeton Architectural Press.
6. Mehta, Suketa. 2004. *Maximum City - Bombay Lost and Found*. New York: Alfred A. Knopf.
7. Nietzsche, Friedrich. 1956. *The Birth of Tragedy and the Genealogy of Morals*. Translated by F. Golfing. New York: Doubleday.
8. Nietzsche, Friedrich. 1995. *Thus Spoke Zarathustra*. New York: Modern Library.
9. Nietzsche, Friedrich. 2003. *Beyond Good and Evil*. Translated by R. J. Hollingdale. New York, NY: Penguin Books.
10. Nietzsche, Friedrich. 2007. *The Dawn of Day*. Mineola: Dover Publications, Inc.
11. Noever, Peter. 1992. *The End of Architecture*. Munich: Prestel-Verlag.
12. Noever, Peter ed. 1997. *Architecture in transition: between Deconstruction and New Modernism*. Munich: Prestel.
13. Ruskin, John. 1989. *The Seven Lamps of Architecture*. Mineola, NY: Dover Publications Inc.
14. Sennett, Richard. 2008. *The Craftsman*. New Haven, CT: Yale University Press.
15. Solomon, Robert. 2003. *Living With Nietzsche; What the Great "Immoralist" Has to Teach Us*. New York: Oxford University Press.
16. Solomon, Robert, and Kathleen Higgins. 2000. *What Nietzsche Really Said*. New York: Random House.
17. Tournikiotis, Panayotis. 1999. *The Historiography of Modern Architecture*. Cambridge, Mass: MIT Press.
18. Vandenberg, Martiz. 2003. *Farnsworth House, Ludwig Mies van der Rohe*. London: Phaidon Press.



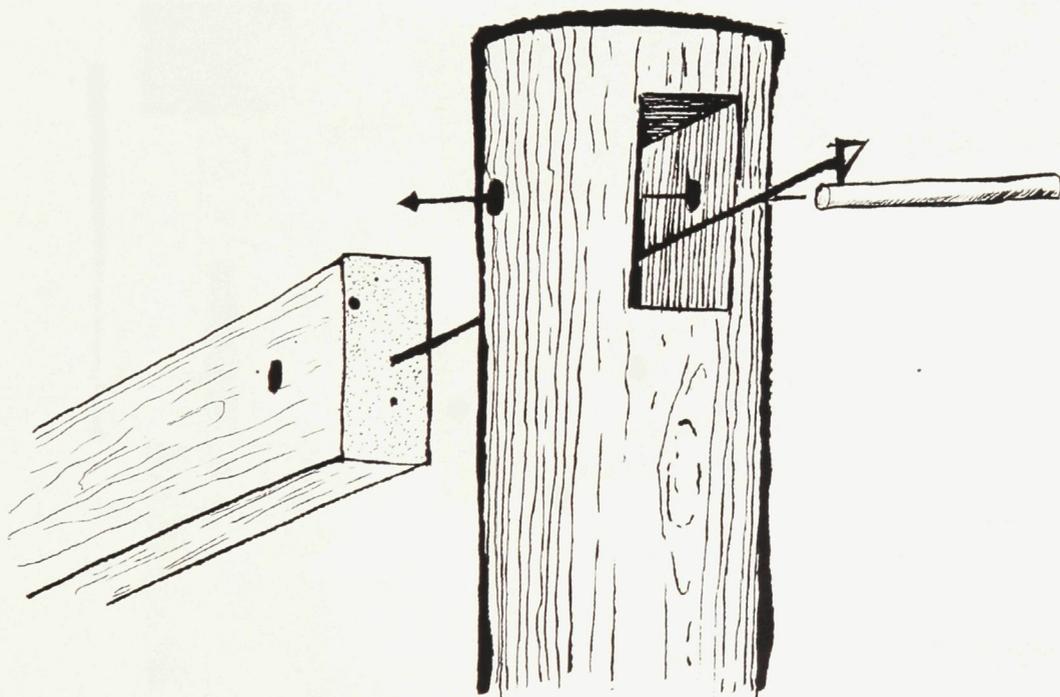
1. Hinges



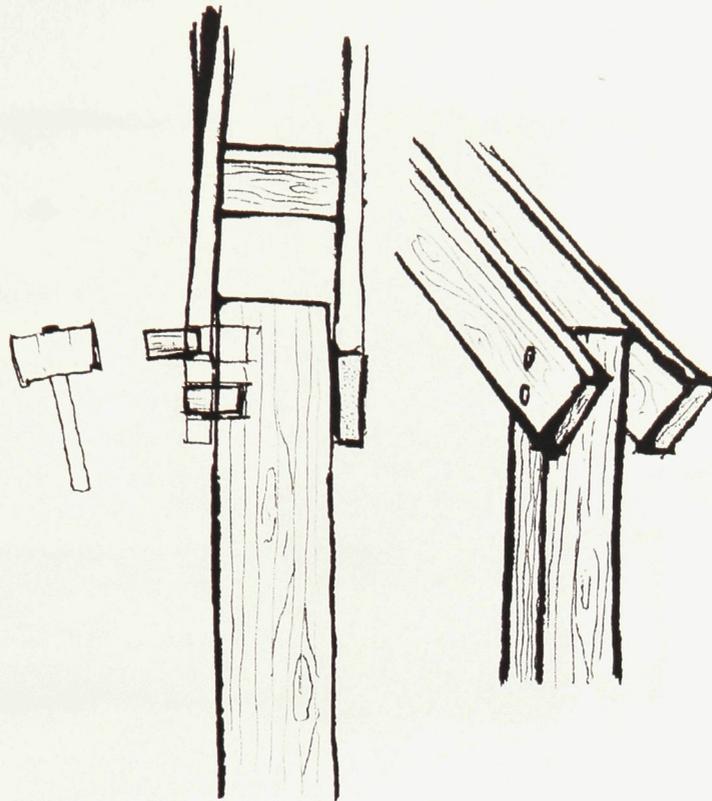
2. Hingemaker's training room.



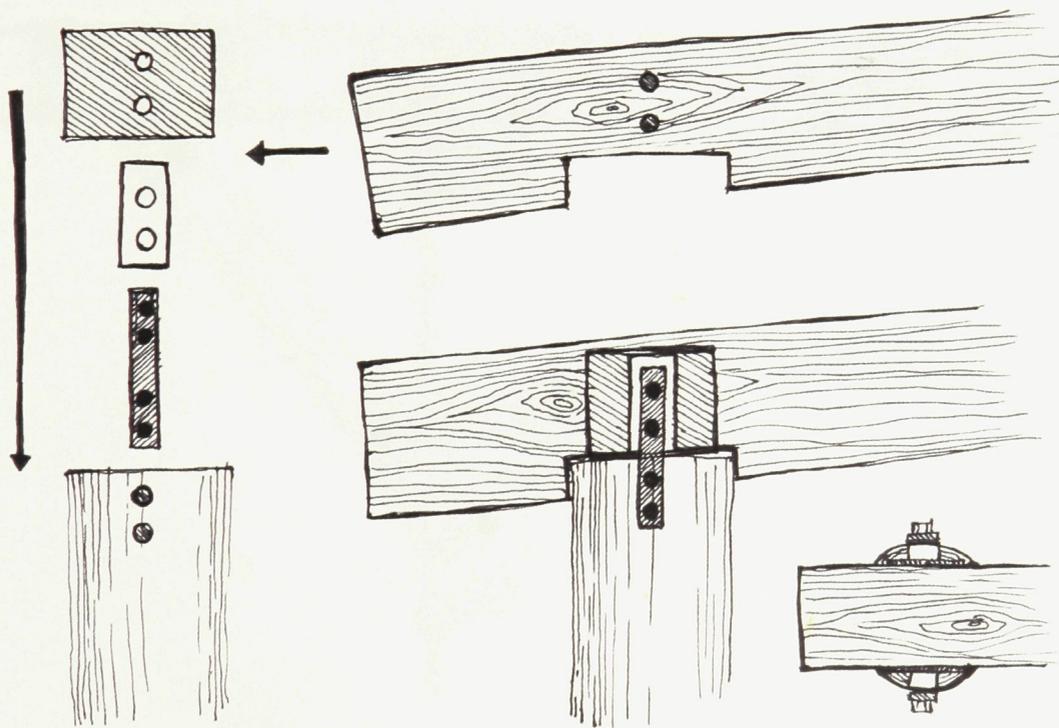
3. Sketch of Wooden Pin Connection



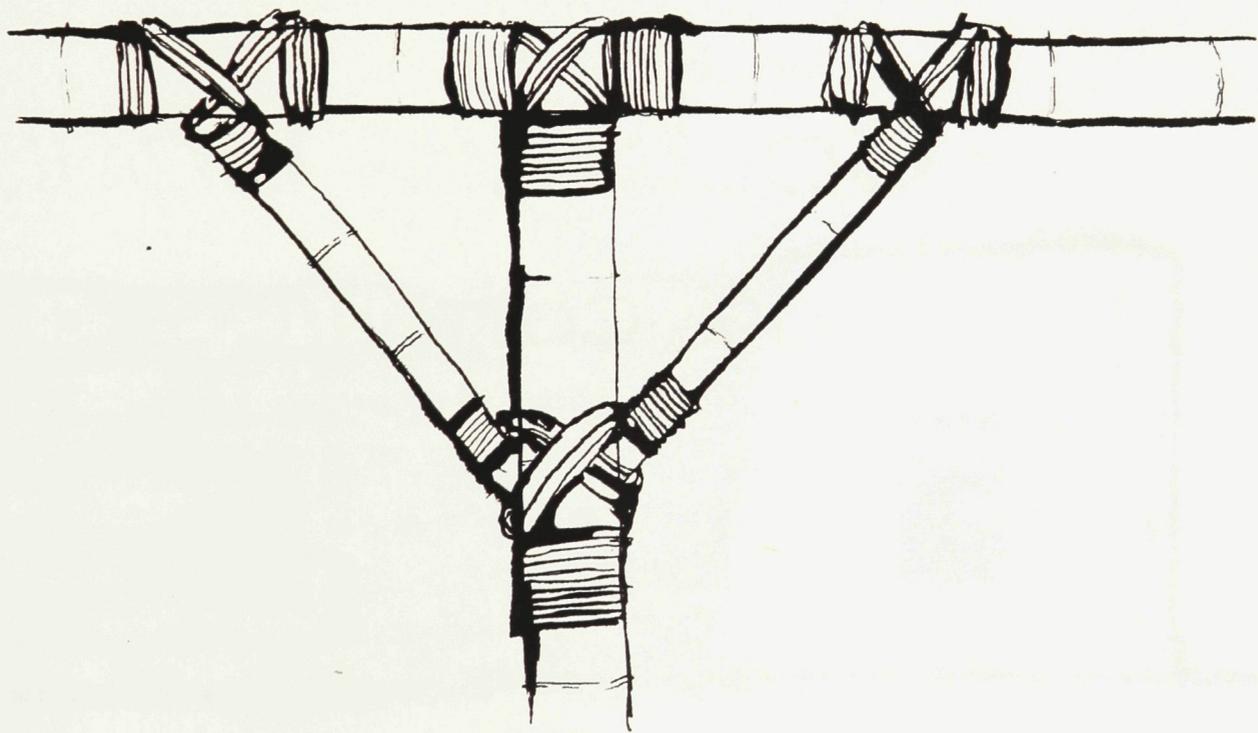
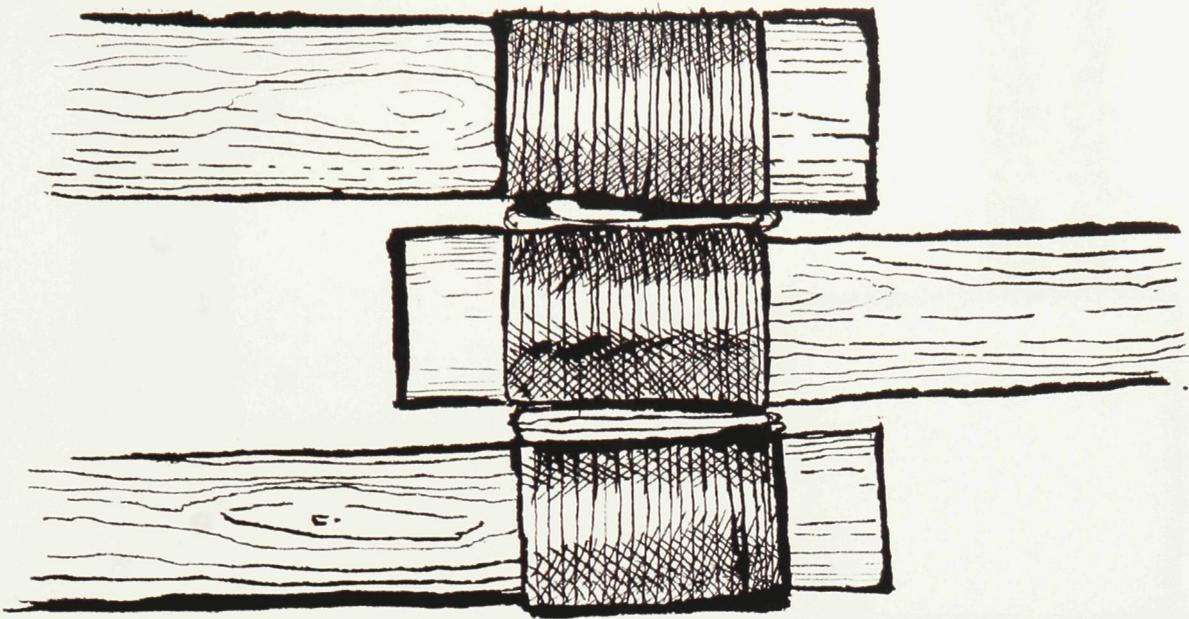
4. Mortise and Tenon Joint with Floor Joist and Column



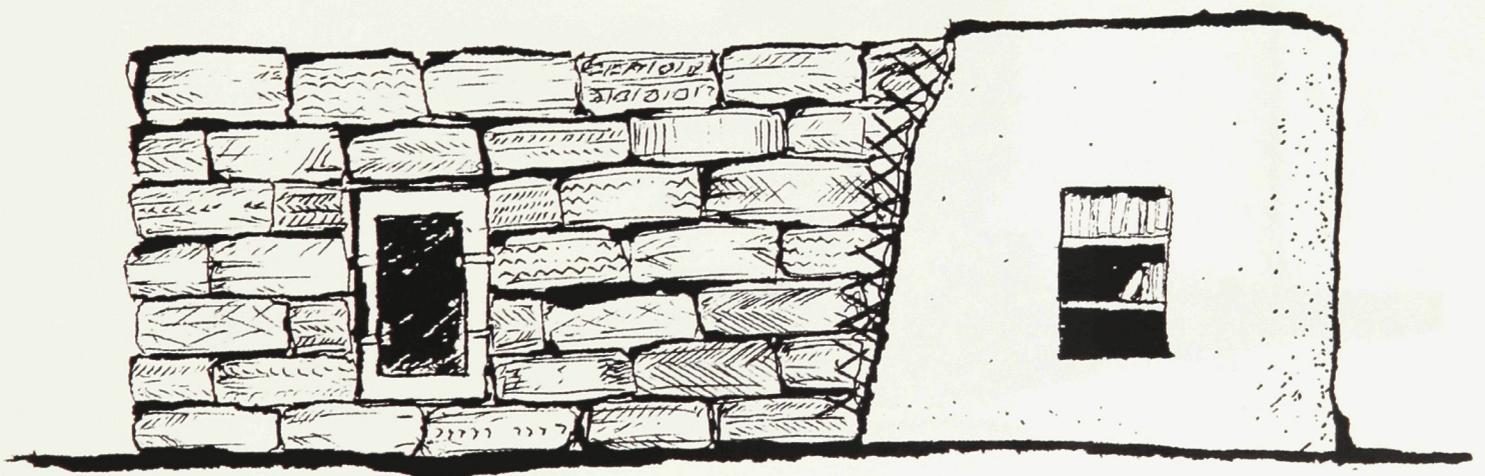
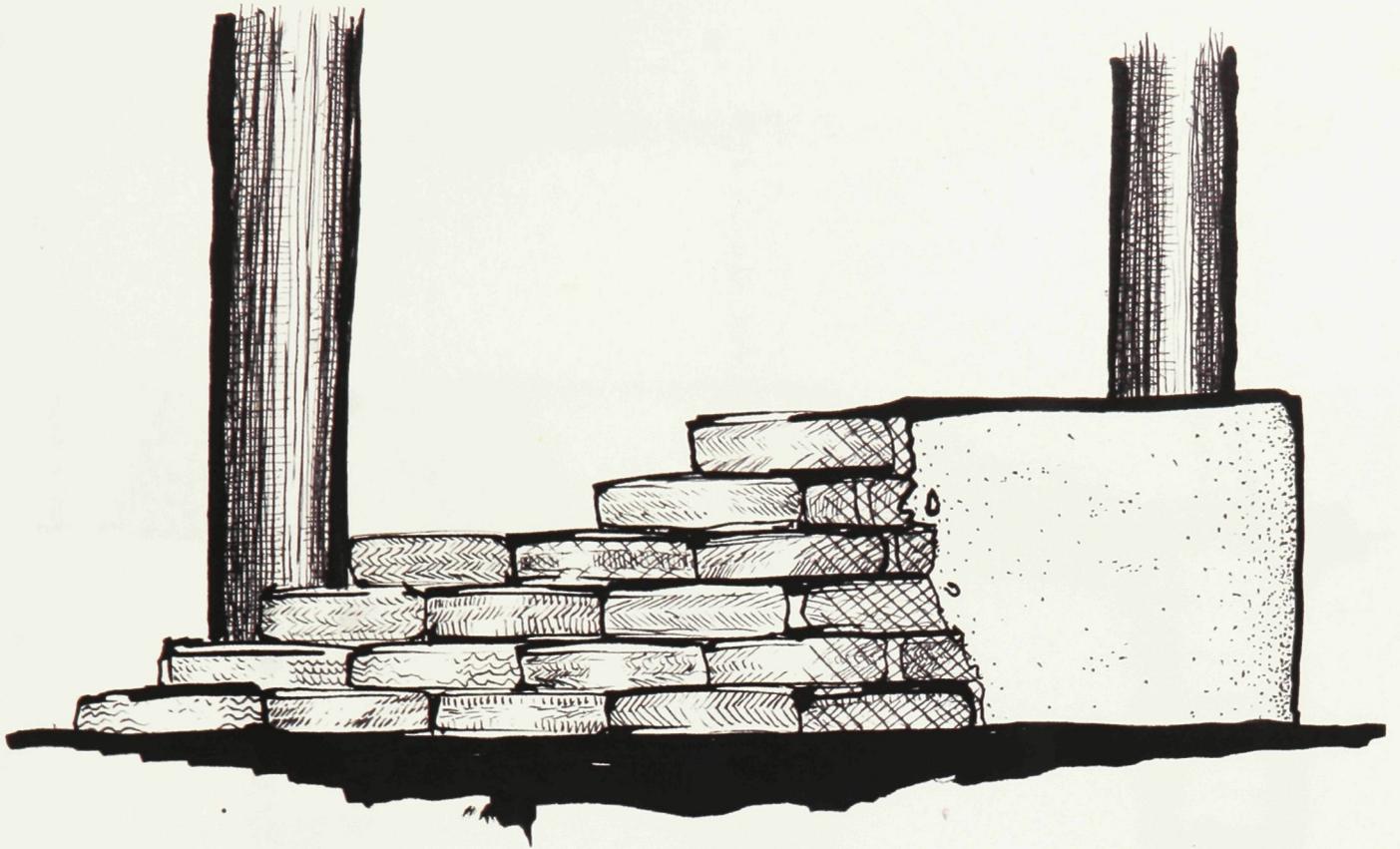
5. Sketch of pinned connection between rafters and column.



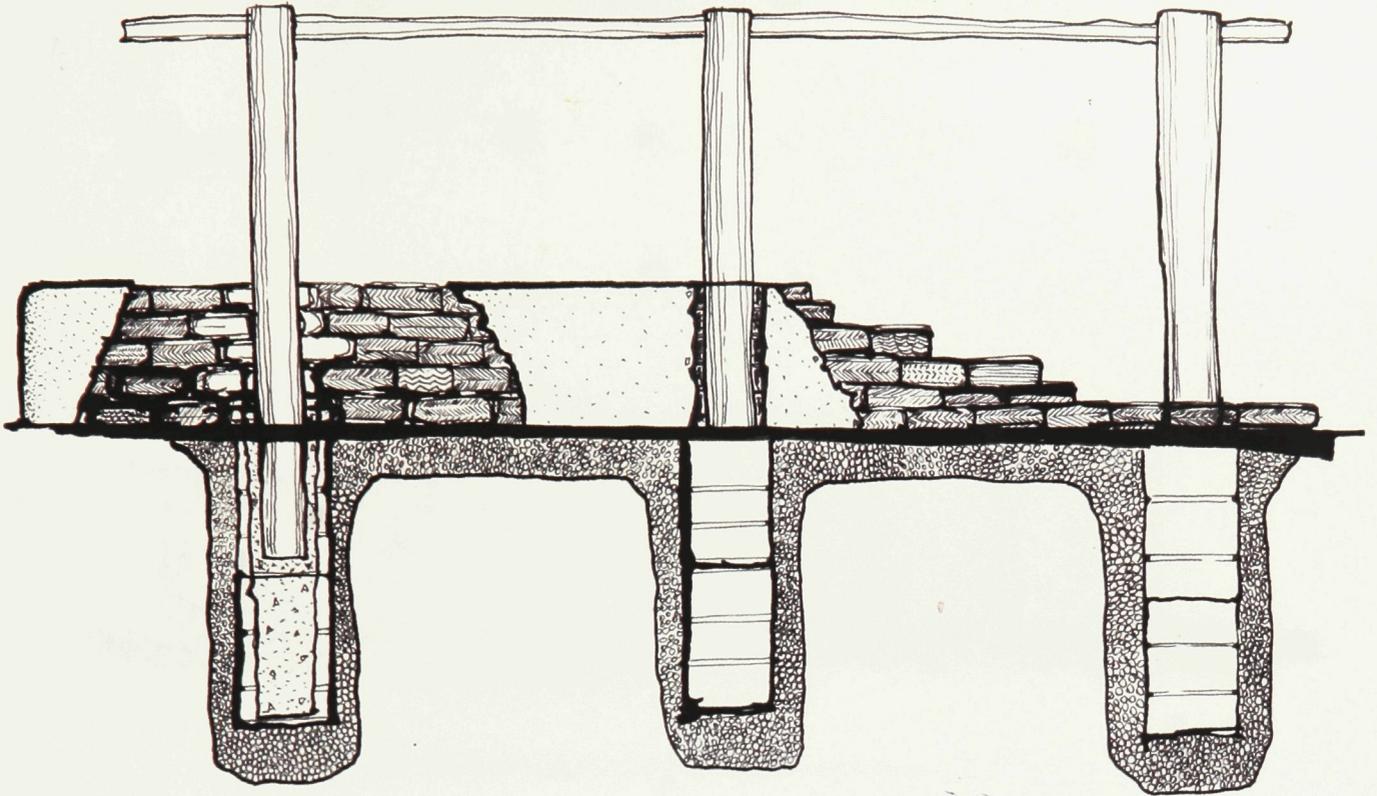
6. Sketch of connection between rafter and column.



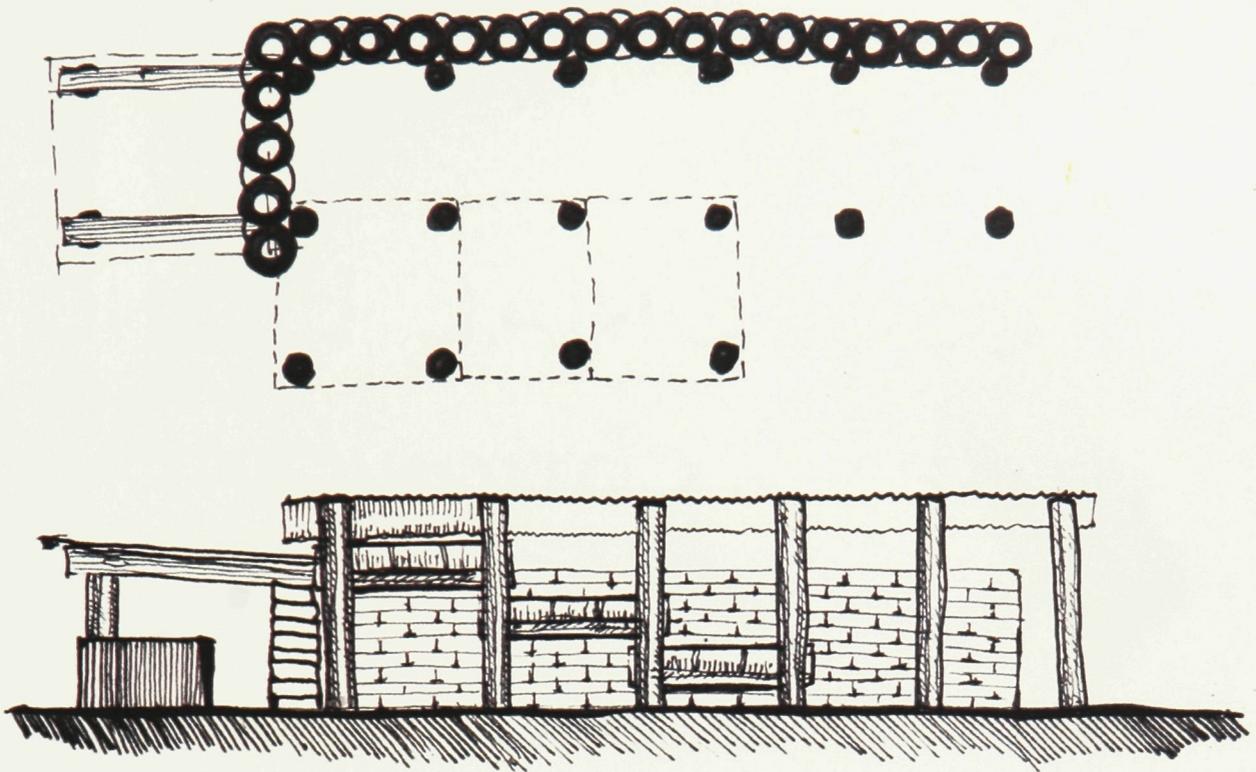
7. Lashing connections for rooftop structure.



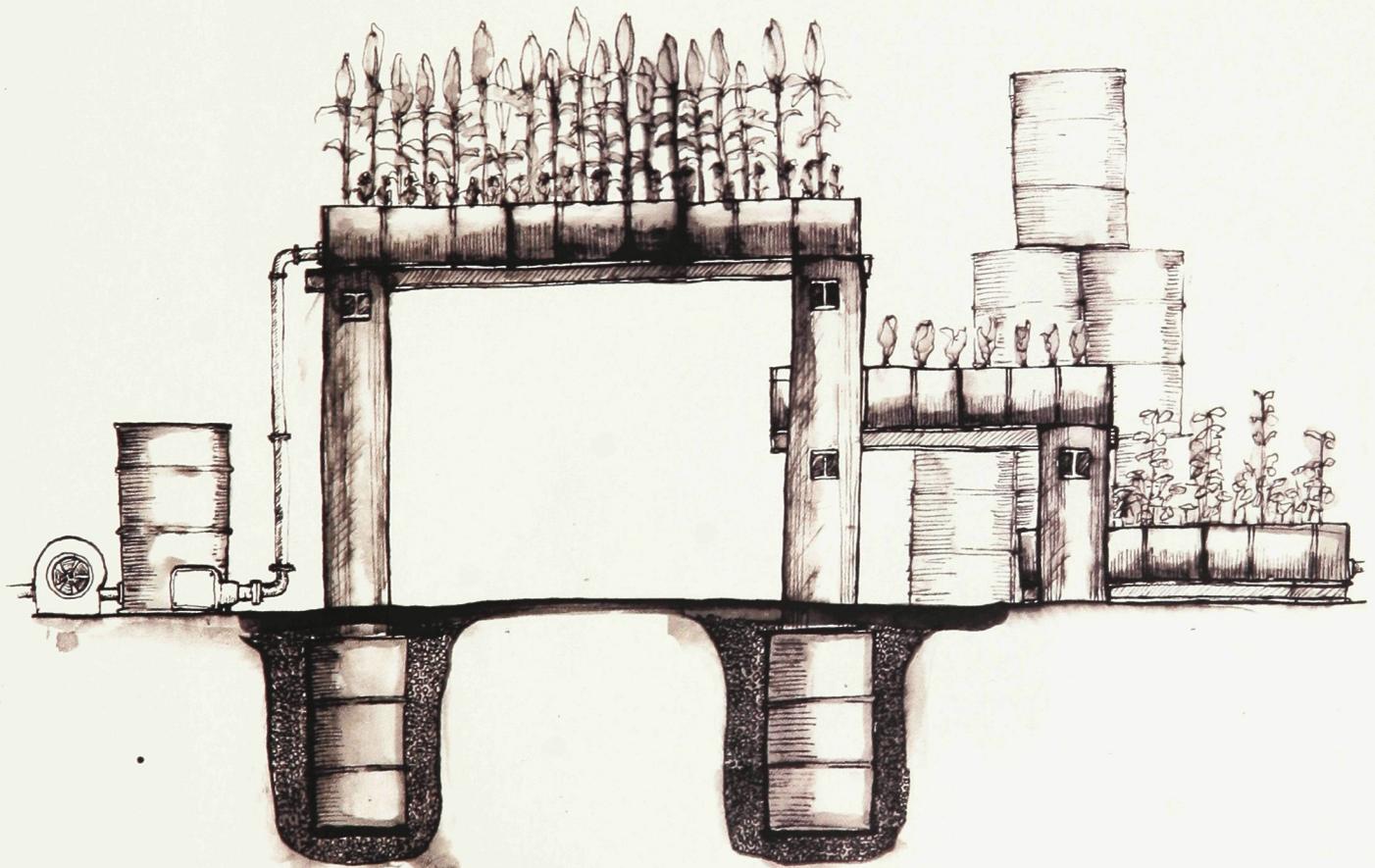
8. Tire wall construction including inset columns (top) and inset storage recesses (bottom).



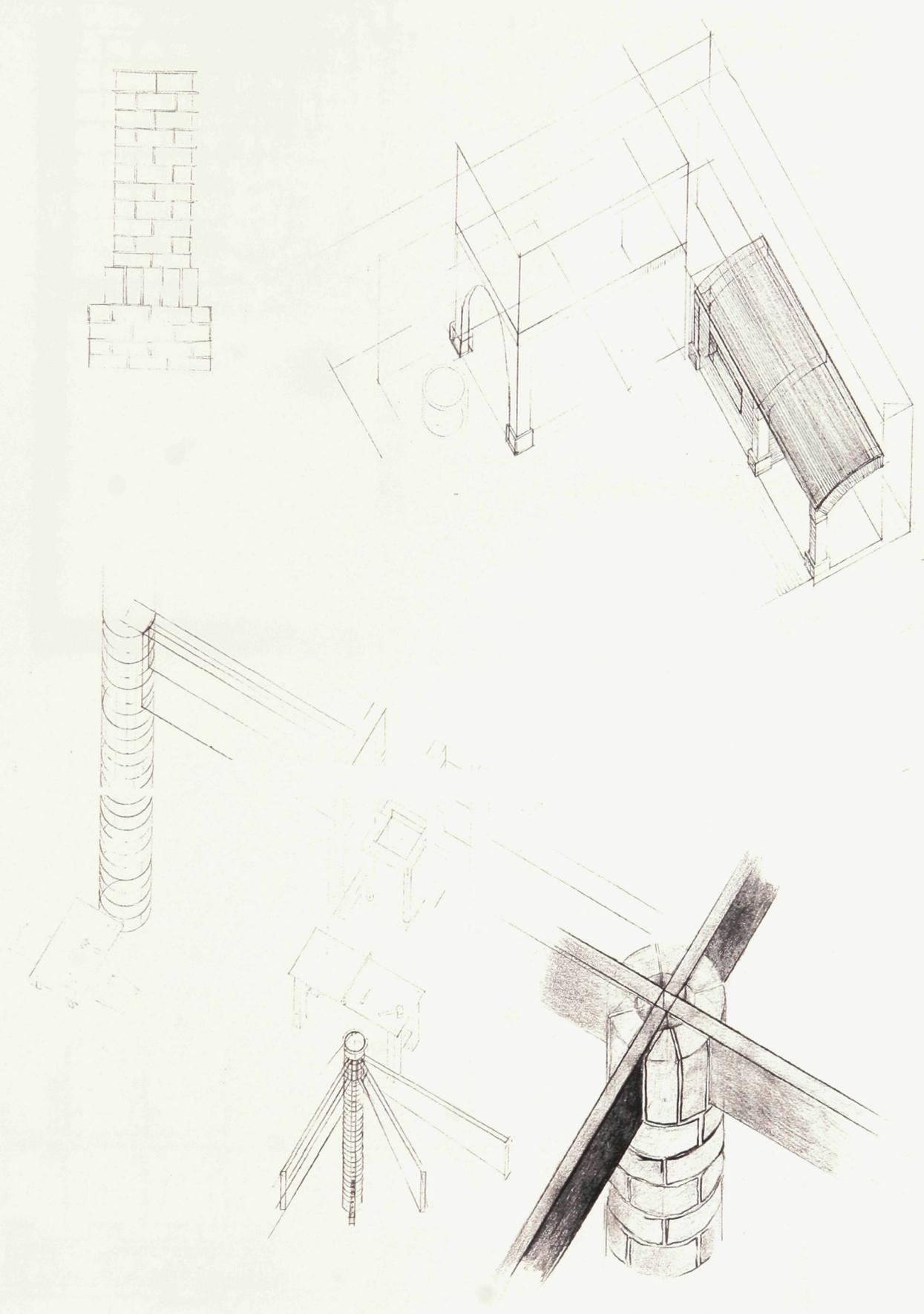
9. Additional sketches of tire wall construction.



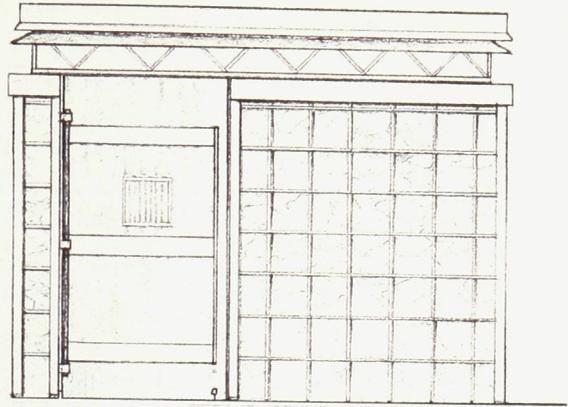
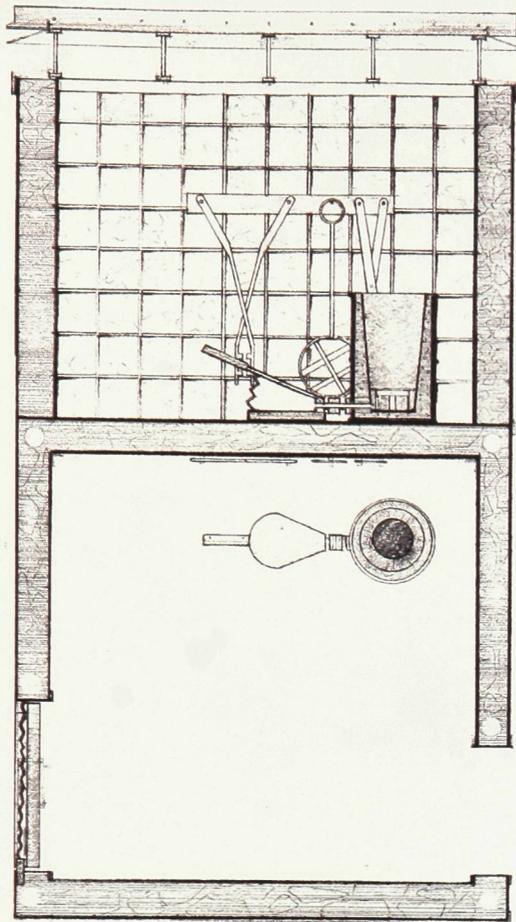
10. Sketch of tire wall and column structure.



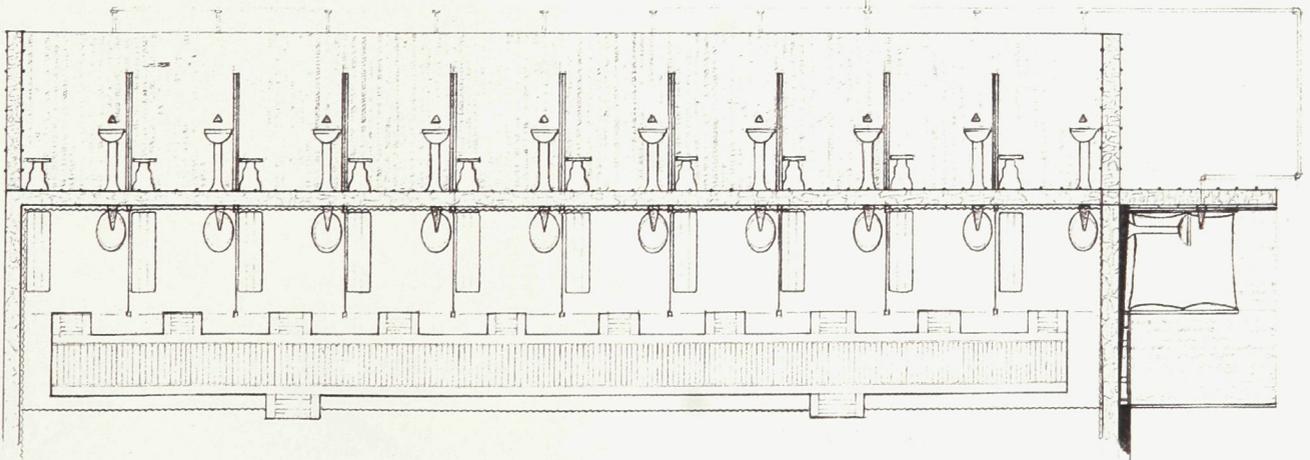
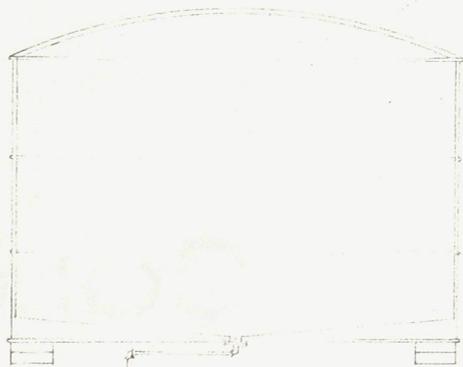
11. Three stage bio filter for cleaning rainwater and growing food.



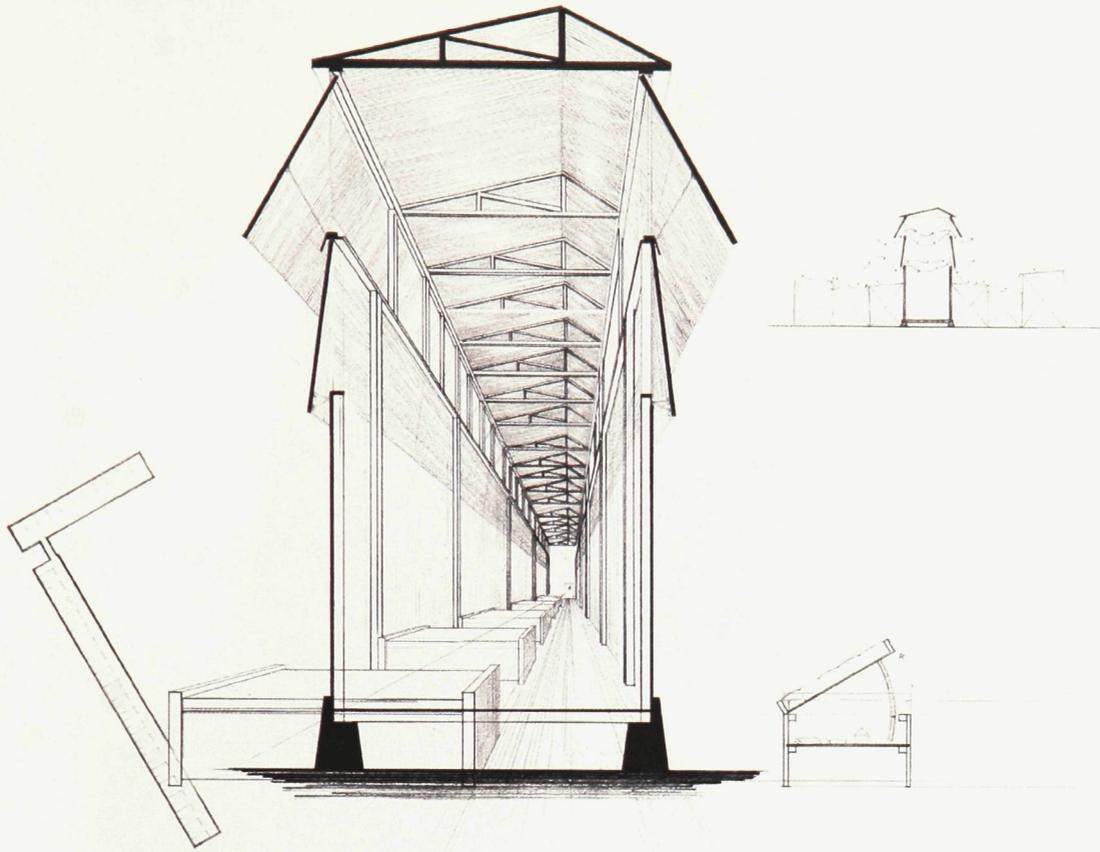
12. Sketches of potential uses for bricks



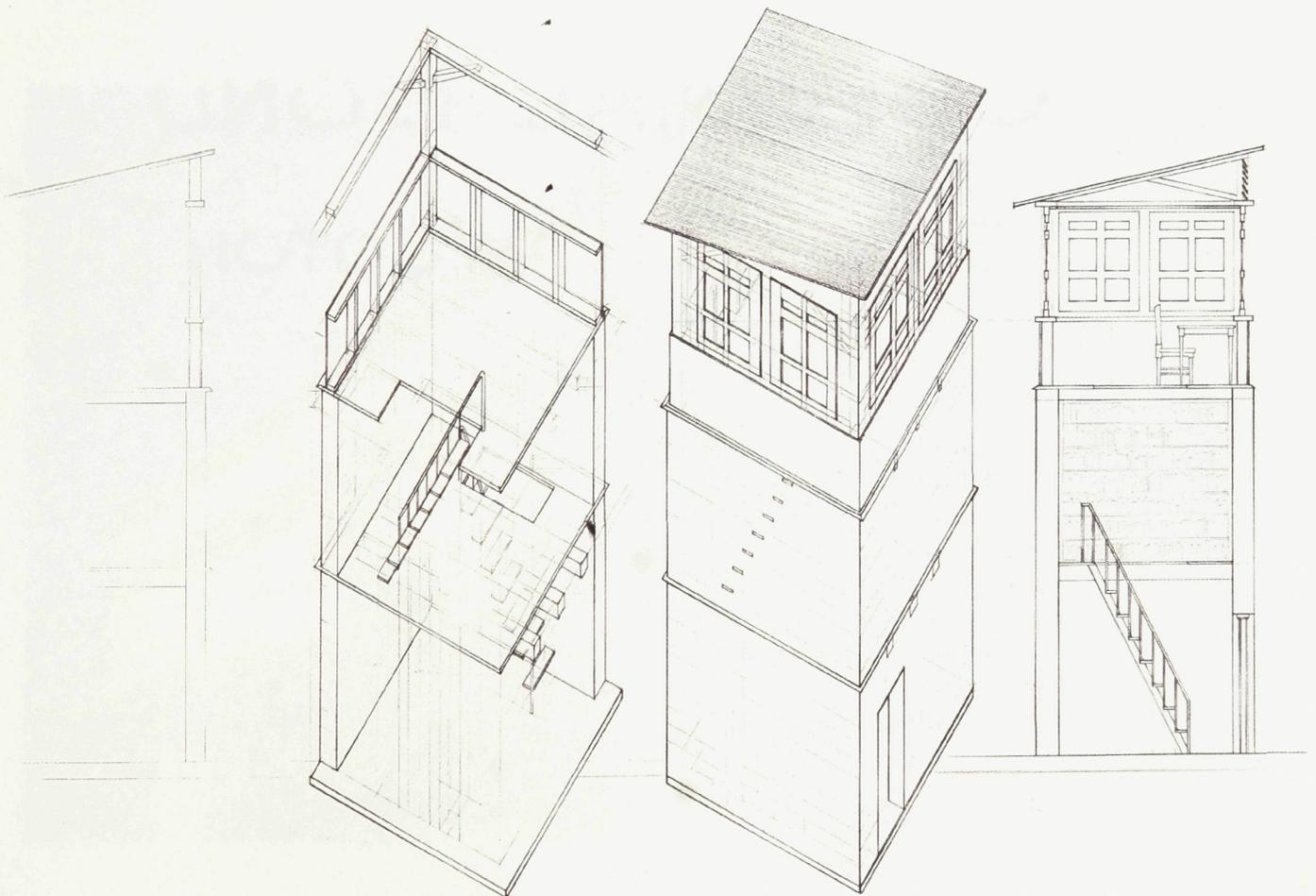
13. *Joined plan and section of foundry.*



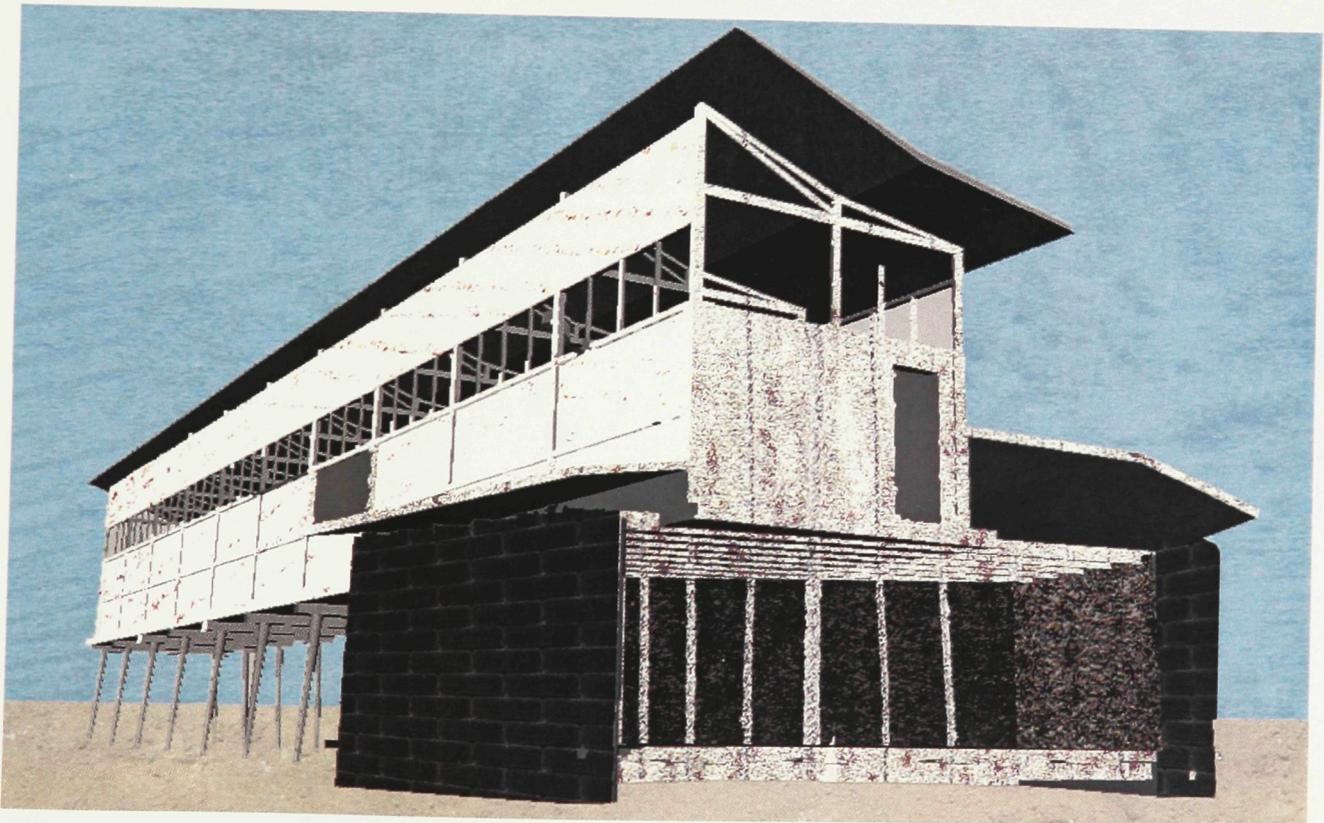
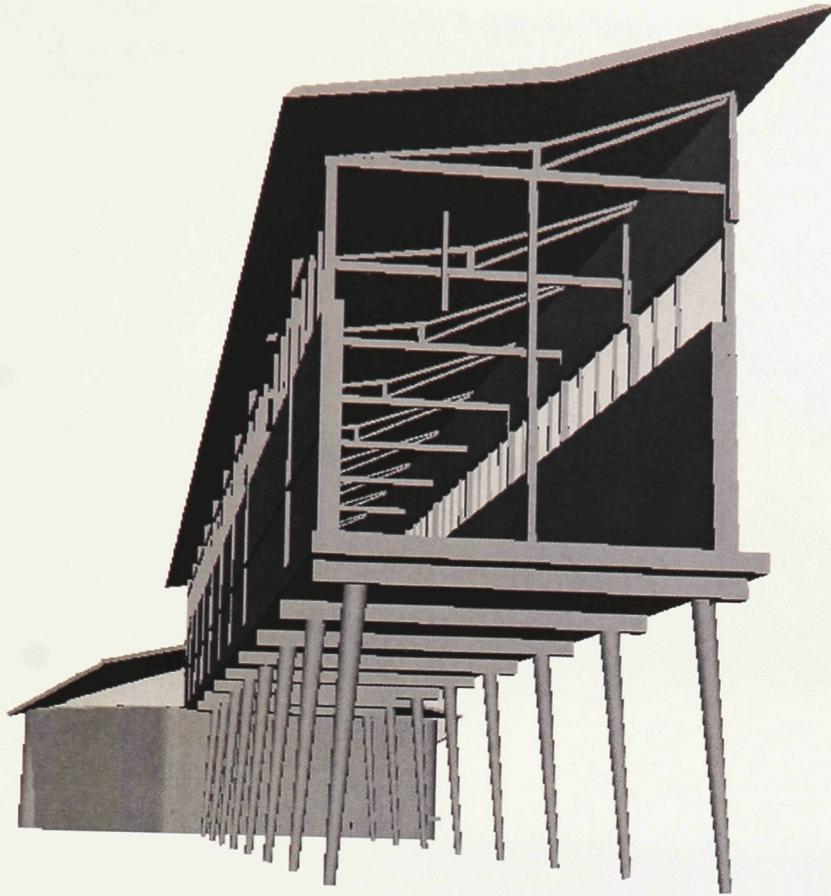
14. *Joined plan and section of bathing facility for orphanage.*



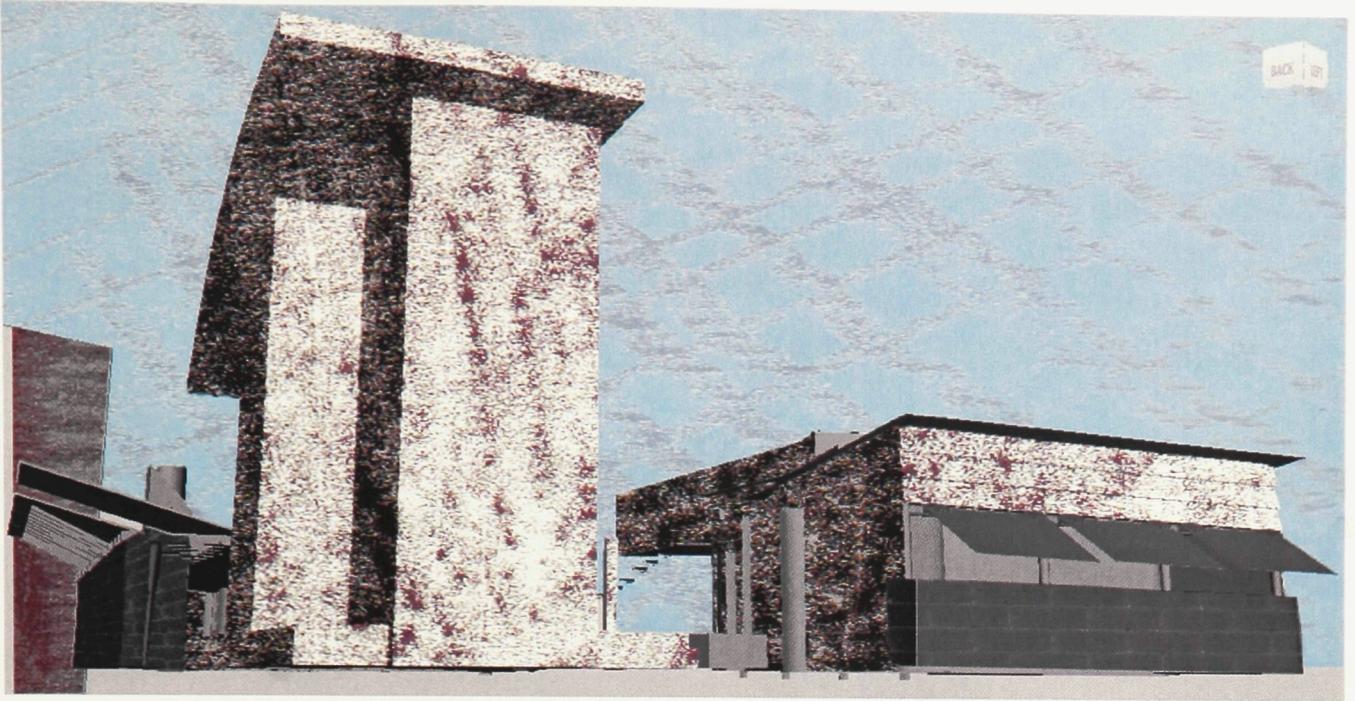
15. Section and perspective of sleeping room.



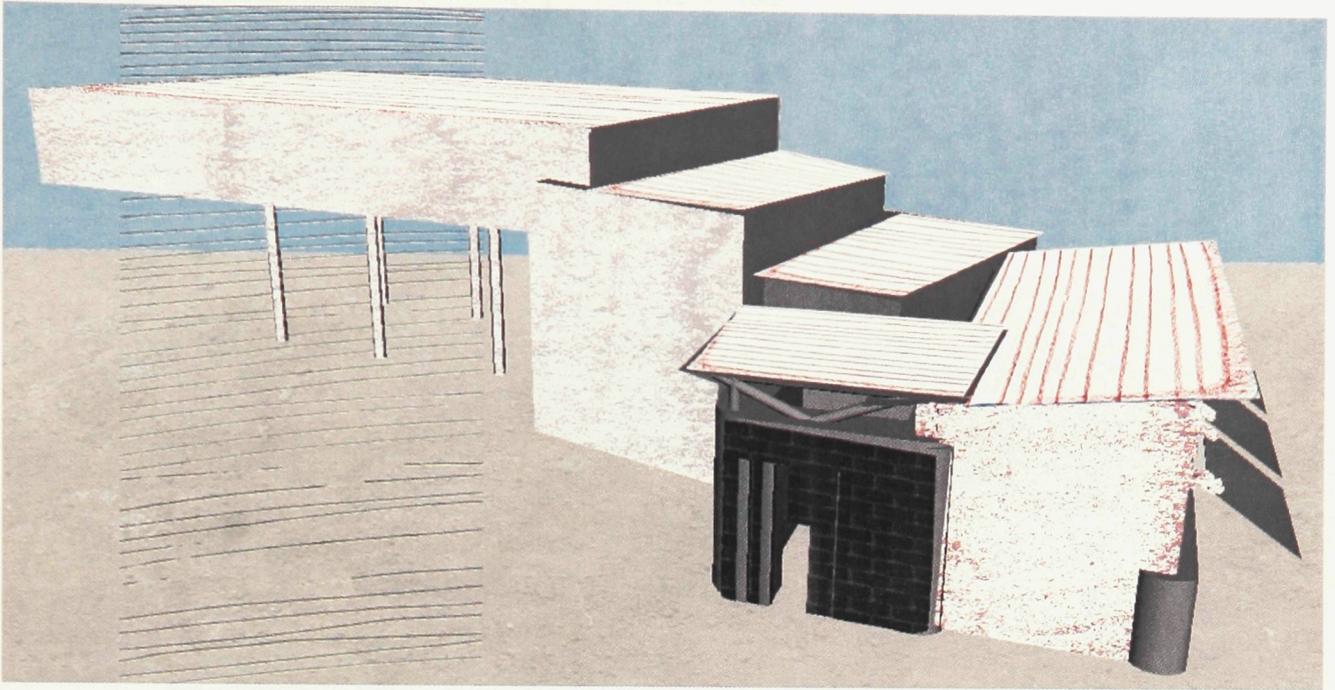
16. Axonometric of a tower.



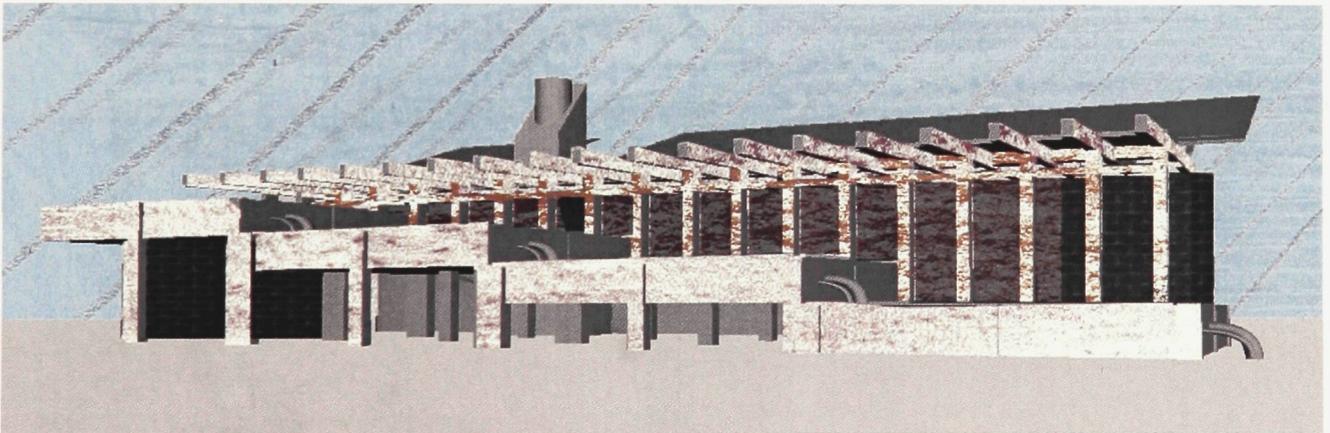
17. Process sketches of the room where children sleep.



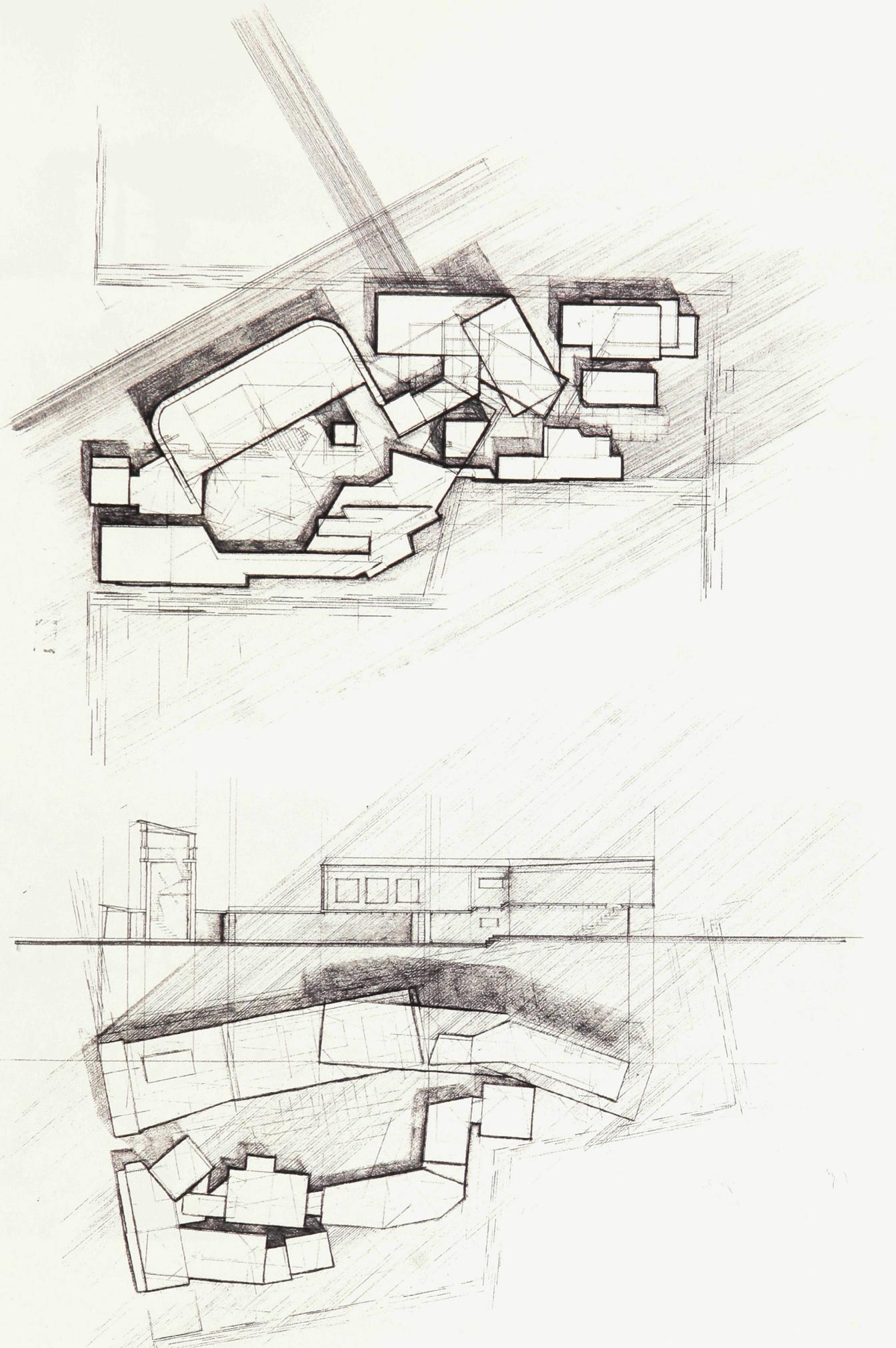
18. Process sketches of tower (removed before final design).



19. Process sketch of workshop buildings.



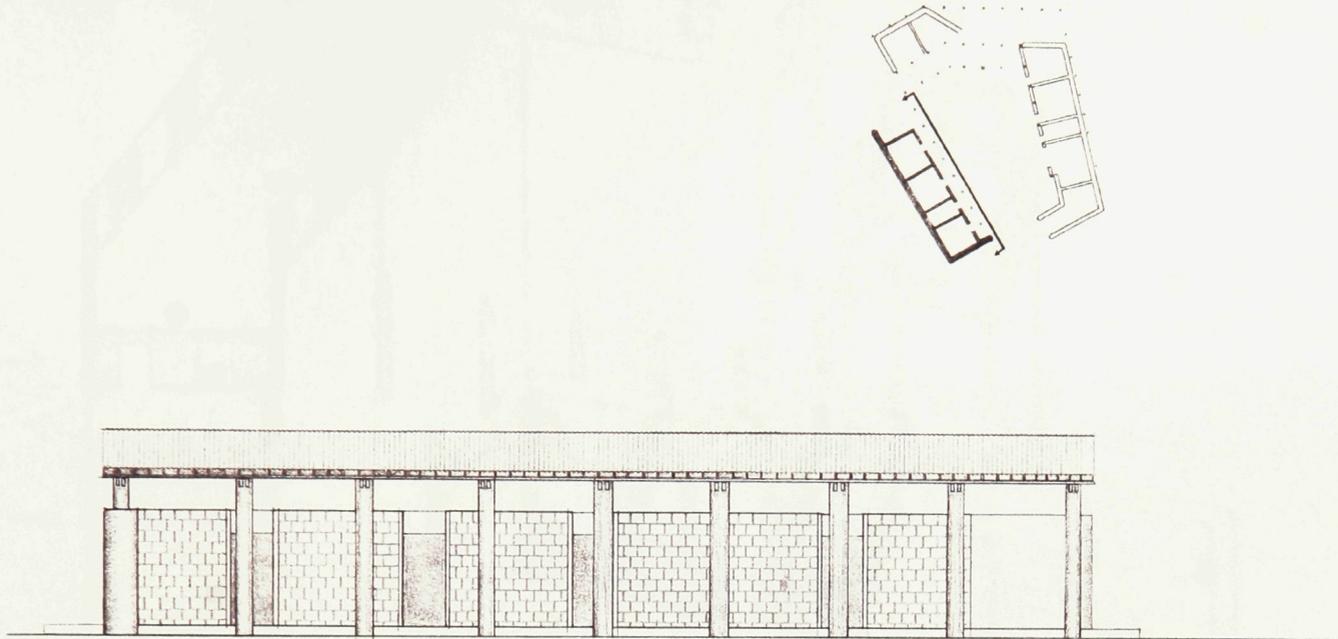
20. Process sketch of community building.



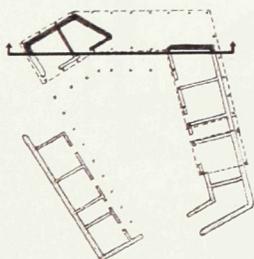
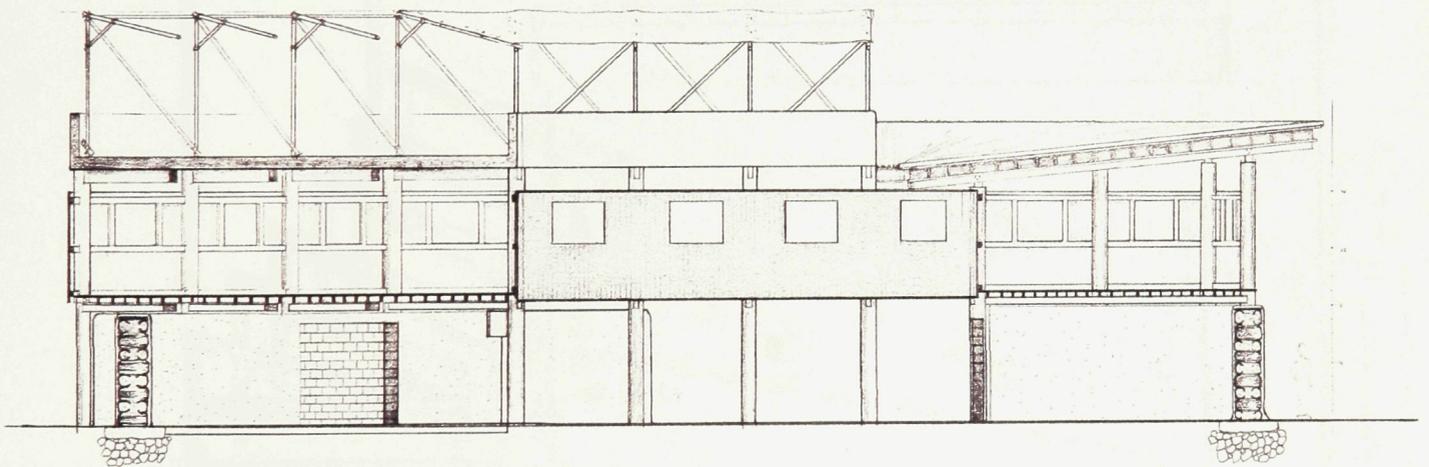
21. First and Second iterations of plan.



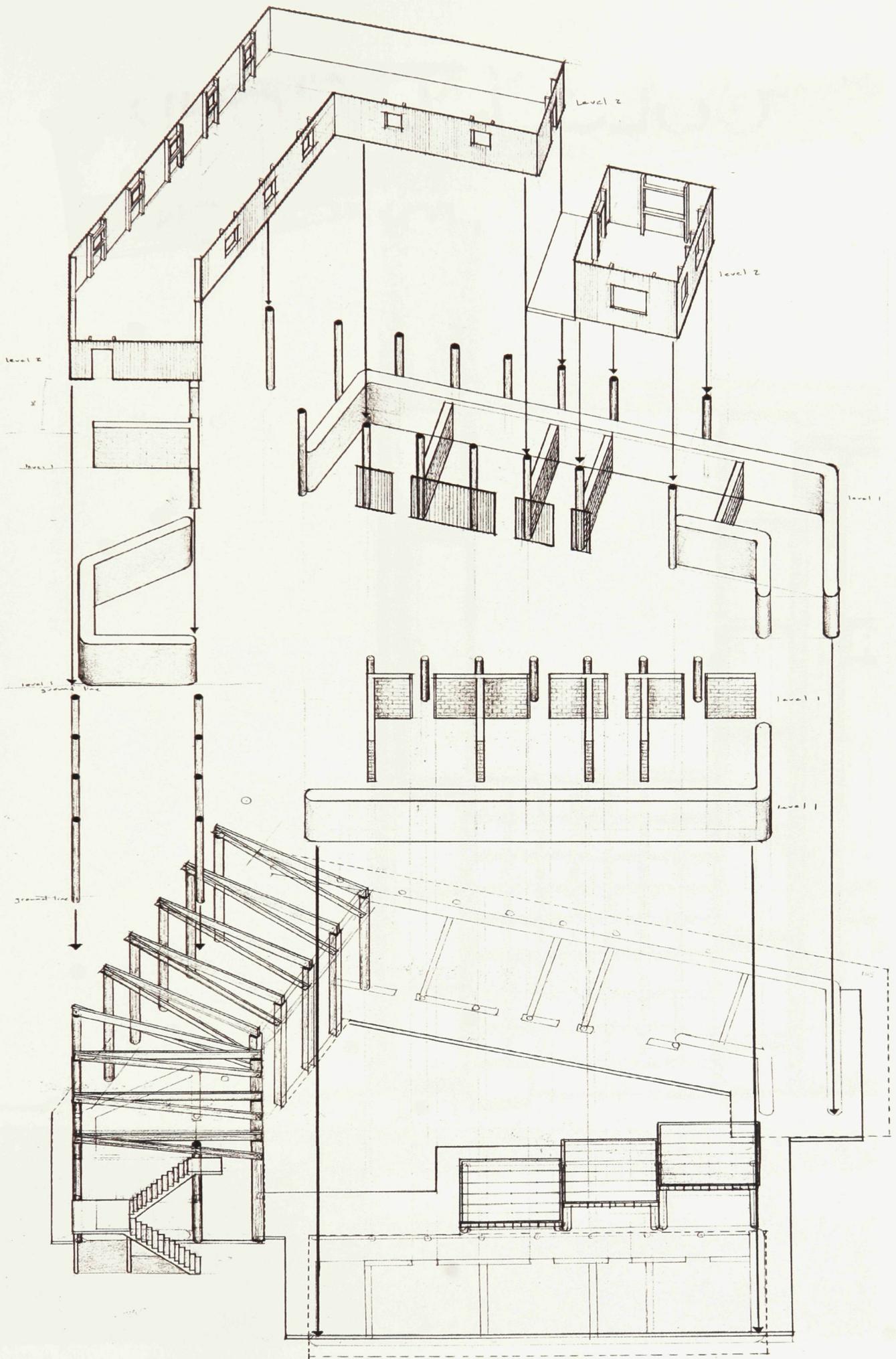
23. Final plan.



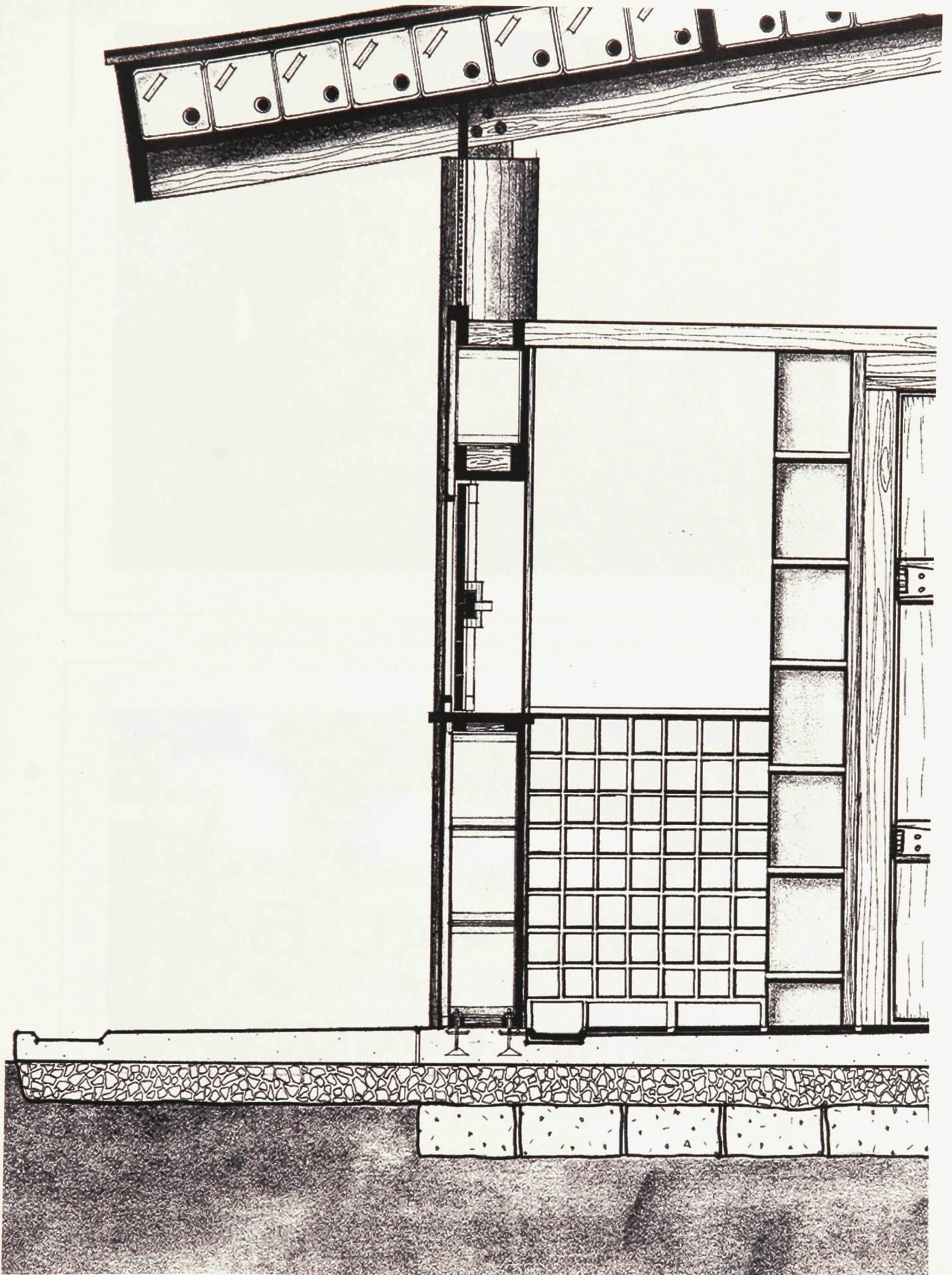
24. Elevation of workshop building.



25. Section through workshop and living spaces.



26. Exploded axonometric drawing of primary structural components.



27. Detail from craftsman's home.



28. Overdesigned structure will allow for easier future expansion.



29. Looking towards shops.



30. Worms-eye view of central community space.



31. Looking over brightly colored corrugated roofs towards rooftop terrace.



32. Looking into central community space.



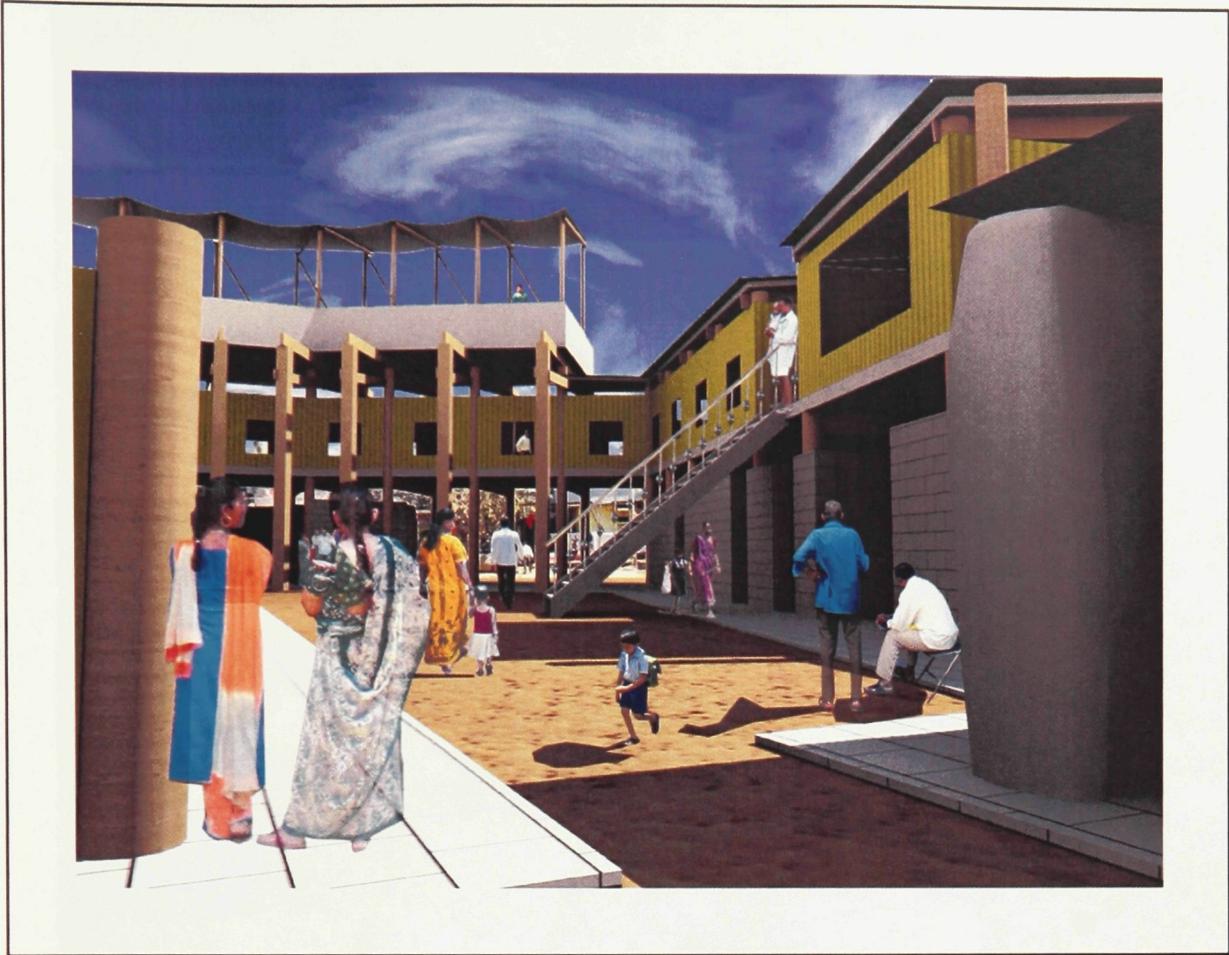
33. Approaching the backside of the school. Through the overhang lies the central community space.



34. *Sitting under rooftop terrace structure.*



35. *Aerial view into community space showing three stage water bio-filter on right.*



36. View into community area from street.



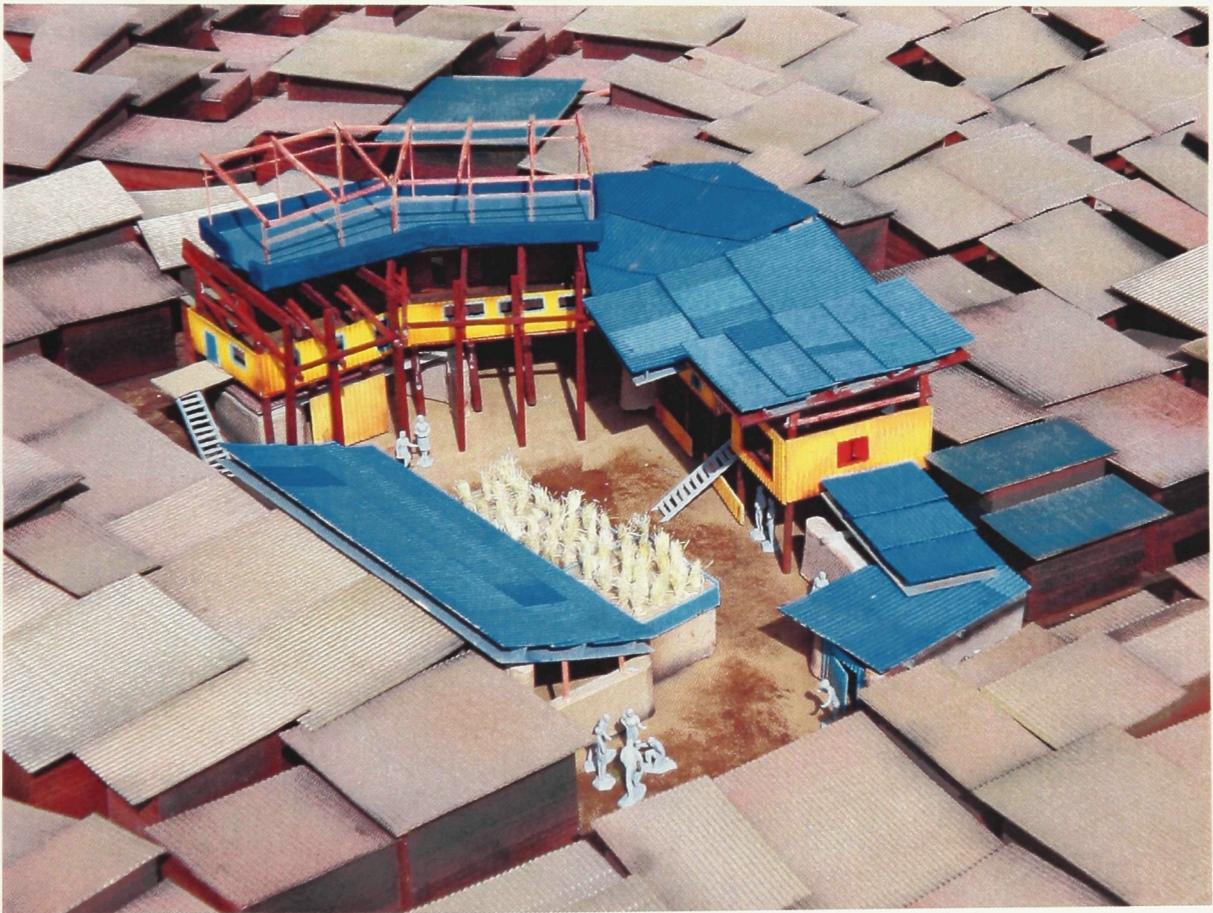
37. Looking towards rooftop terrace.



38. Images of physical model.



39. Images of physical model.



40. Images of physical model.



41. Images of physical model.

020079

**ende**